





Engraved by J. B. Buttre

BENJAMIN FRANKLIN.

WILLIAM LOUGATTE MAN

THE

76

YOUNG MAN'S BOOK.

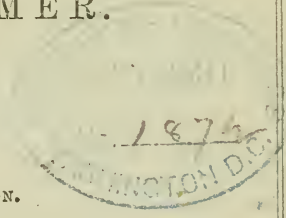
OR

Self-Education.

BY

WILLIAM HOSMER.

26
"Knowledge is power."—BACON.



AUBURN:

DERBY AND MILLER.

1852.

L C 31
H 7

Entered, according to Act of Congress, in the year 1851, by
WILLIAM HOSMER,
In the Clerk's Office of the Northern District of New York.

STEREOTYPED BY
THOMAS B. SMITH,
216 William Street.

Preface.

MUCH has been written on education, and much that is of great value; but in this, as in other departments of literature, there is yet room for improvement. No great improvement, however, can be expected while our views continue to be drawn from the school-room rather than from the philosophy of the human mind. Modes of teaching may be better or worse without materially affecting the general question of intellectual capacity, or in any degree adjusting the matter of instruction to the actual wants of that capacity. For want of greater care in this particular, the course of education, at the present day, wears an aspect of obsequiousness truly painful to one who believes the mind of man to be still capable of excelling in original achievements. Excessive veneration for the past cuts off all hope for the future.

Though we have many works on education, it must not be understood that we have many on self-education. The subject has not been entirely overlooked, but it has seldom received the attention which it deserves. The schools have enjoyed a monopoly of public solicitude, and private education has laid neglected as a thing of no importance. What was within the reach of the unaided student, few have inquired; and he has been left to be something, or to be nothing, as chance might direct; for all agreed he could never be a scholar. Here, therefore, books are lamentably scarce. But little has been written on the sub-

ject, and that little not always in the manner best calculated to promote the ends in view. The best work, upon the whole, is that entitled, "*The Pursuit of Knowledge under Difficulties*," and which was originally published in England by the "Society for the Diffusion of Useful Knowledge." The matter of these volumes is excellent enough, but it is mostly without arrangement, and without reference to those principles of mental philosophy which the examples adduced are so well adapted to illustrate. It is too nearly a collection of anecdotes to answer the purpose of a scientific treatise. Dr. Channing's little work on "*Self-Culture*," and the spirited review of it by Dr. Edwards, are both valuable as far as they go; the only possible objection which can be made to them is, that they are not larger. Since the last sheet of this work was printed, the author has met with a small volume on "*Self-Cultivation*," by Isaac Taylor, the well-known author of "*Natural History of Enthusiasm*." It bears marks of the writer's eminent talents, although for elegance of style and depth of thought it can hardly be compared with some of his later productions. Whatever may be the defects of these publications, it was from no wish to supersede any of them that the following work has been prepared; the principal motive was to supply a more comprehensive view of the subject.

Contents.

INTRODUCTION	PAGE 7
------------------------	-----------

CHAPTER I.

PRELIMINARY OBSERVATIONS ON THE CONSTITUTION OF THE HUMAN MIND	18
---	----

CHAPTER II.

EDUCATION	38
---------------------	----

CHAPTER III.

SELF-EDUCATION	46
--------------------------	----

CHAPTER IV.

PRACTICABILITY OF SELF-EDUCATION	52
--	----

CHAPTER V.

PRACTICAL DIRECTIONS	72
--------------------------------	----

CHAPTER VI.

MECHANICAL FACILITIES	104
---------------------------------	-----

CHAPTER VII.

PATRONAGE	115
---------------------	-----

CHAPTER VIII.

	PAGE
PECUNIARY RESOURCES	127

CHAPTER IX.

HINDRANCES TO SELF-EDUCATION	138
--	-----

CHAPTER X.

MOTIVES TO SELF-EDUCATION	200
-------------------------------------	-----

CHAPTER XI.

MENTAL CHARACTERISTICS DEMANDED BY THE ENTER- PRISE	221
--	-----

CHAPTER XII.

ERRORS OF SELF-EDUCATION	236
------------------------------------	-----

CHAPTER XIII.

SCIENTIFIC AND ARTISTIC RULES	256
---	-----

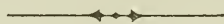
CHAPTER XIV.

SCHOLASTIC INSTITUTIONS	263
-----------------------------------	-----

CHAPTER XV.

INVENTIONS AND DISCOVERIES	277
--------------------------------------	-----

THE YOUNG MAN'S BOOK.



INTRODUCTION.

THE primary object of this work is to offer some encouragement to those whose circumstances are such as to deprive them of the ordinary advantages for intellectual cultivation. Of this class are those young persons who have neither the time nor the money demanded by the usual course of education. It cannot have escaped the observation of any one that our schools, however excellent, do not meet the wants of a large portion of society. These institutions can furnish only instruction ; the means by which the student is to be supported come not within their purveyance. Now if education is to be had at school, and nowhere else, the persons to whom I allude can never be educated, be-

cause the necessary means are beyond their reach. It is useless to inform such individuals of advantages to be enjoyed under other circumstances ; they are doomed to conflict with necessity, and it can only add to their mortification to be made the subjects of impertinent directions. That education is to be had at school, they very well know ; that good books are to be preferred to poor ones, and that reading is to be conducted with diligent attention, they are also aware ; but all this has nothing to do with their case, as they can avail themselves neither of the one nor the other. It is of no use to give directions that cannot be followed, and unless suggestions can be made which will remove the embarrassments connected with this class of youth, it is but justice to refrain from insulting their misfortunes by abortive advice. Youth of this description need and desire instruction ; they feel the difficulties which press upon them, and would gladly find relief. But few, however, are able to appreciate their situation or give them that assistance which the nature of their condition demands.

Too often aspirations originating from such minds are discouraged as fruitless attempts against fate, and the daring individual is reminded of the seemingly impassable barriers in the way of his advancement; and then, finding himself overlooked by the popular system of instruction, he is but too apt to acquiesce in the fatal conviction that, with regard to him, education is impracticable. Believing that there is no necessity for yielding to difficulties of any kind, these pages will be devoted to the interests of unfriended youth, and will take up their hopes precisely where existing arrangements and mistaken advice would lay them down.

There is another class of persons equally large, and equally within the range of objects comprehended by this work; I mean those of maturer years, who are either settled in life, or engaged in business under such circumstances as measurably to exclude them from literary advantages. Most conditions of active life allow comparatively little time for literary and intellectual cultivation; and if a person commences business with limited

attainments in literature, he is almost sure to end with less. Yet this melancholy result is not invariable. Some of the most distinguished names in the annals of science were men who acquired their learning amid the uninterrupted toils of a laborious trade or profession. It is believed that what has thus been done in a few instances, ought not to be attributed solely to superior powers. Much is unquestionably to be ascribed to the transcendent abilities of these men, but they themselves could never be made to impute their success to this cause. What seemed to others a mystery was to them plain ; they knew the steps by which their eminence had been gained, and believed that others had only to make the same attempt to become alike distinguished. Modesty may, perhaps, have contributed something to this opinion, as merit is not allowed to assert its own claims ; but abating all that is requisite on the ground of undervaluation, still we are obliged to conclude that they owed at least as much to the character of their efforts as to the extent of their abilities. Knowing the efficiency of

a judicious method, it is not surprising that they forgot the peculiar advantages with which, in their own case, it had been pursued. We cannot hope that all men will so far extricate themselves from the entanglements of a business life as to profit by any suggestions of this kind; the desire for improvement too frequently diminishes with the same pace that opportunities decrease. There are those, however, who feel more keenly as they advance, and the desires which actuated them but feebly in youth have become irrepressible in riper years. With these, the full importance of the subject was never felt until experience had confirmed the truth of early convictions and a change of circumstances assured them that the most favorable period for education had already passed. The loss of a single hour is to be regretted, and every additional hindrance is, in some sense, an evil, but it will be seen that facts authorize no discouragement, and the indomitable spirit need not acknowledge any insurmountable obstacle.

Independent of these considerations there

are a variety of reasons for discussing more fully the laws of mental improvement. Were it ascertained that education is exclusively the gift of schools, we yet require to be better informed on what principles it is imparted. This is demanded not less by the philosophy of mind than by a desire for that continued advancement which is rendered necessary by the circumstances of active life. Youth cannot learn at school all that is requisite for practical purposes. Much they may acquire, but the stock of theoretical knowledge with which they enter upon the world must receive additions and corrections. They must continue to learn, and as they cannot always remain at school, it is essential that they should know whether further improvement is practicable or not. If not fully convinced of the affirmative of this question, they will think their education is completed, and rest where others have done to the great disgrace of learning. It will be the object of these pages to supply hints that may be useful even to those who enjoy all the advantages afforded by the schools.

One purpose which we have in view is to impart a self-sustaining influence to the mind. More miss their way at all periods of life, and in all the varied pursuits of human existence, by mistaking their own capacity for action than from all other causes combined. The competency of mind for great undertakings is not always to be known but upon actual trial; however, in general, the individual has a strong conviction of ultimate success. This conviction is one of the most considerable motives to perseverance, and indeed was principally influential in first directing the mind towards the object which it is seeking to accomplish. We have most reason to apprehend a failure in any effort from the decay of this species of confidence. It is a strong motive power indispensable to every enterprise. While it can be kept in vigorous exercise, there is but little danger of defeat; under its inspiration the person becomes unconquerable. Early life is perhaps more favorable to this kind of inspiration; yet it properly belongs to every period, and is, if I mistake not, the natural and

necessary result of observation ; it is an intuitive conviction, impracticable perhaps to others, but entirely within the grasp of its possessor. Failures have a tendency to diminish it, and on the other hand it is always increased by success.

Again, there is a certain loftiness of design to which practical efficiency is much indebted. Where the aim is too low, where great things have not even been attempted, much success must be a matter of chance. For this reason it is peculiarly desirable to elevate, and keep elevated, the standard of endeavor. Meagre attempts are justly rewarded with corresponding poverty of effects. To keep the mind resolutely engaged in proportion to its capacity, is not always practicable, at least in every case ; there will be occasionally a falling off in the most resolute natures, but vigilance re-awakens the slumbering energies and shakes off every inferior purpose. Man should not supinely sit down and revolve the gloomy conception of inability ; he ought to be thankful that there are difficulties enough to put his strength to the test—that there is

an opportunity for him to develop those fine qualities which, in other ages, have given celebrity to mankind.

This essay is not intended to subserve merely theoretical purposes ; it has no interest in any system as such, nor will it aim at more than aiding somewhat the great object of the schools—mental improvement. This done, and the writer has nothing more to ask ; but he cannot believe that existing arrangements are such as to secure all that is practicable ; they may avail under certain circumstances, but there are those, and many of them too, whose interests are untouched by the ordinary course of things. For these other arrangements ought to be made, that the culture of mind may not be limited to classes of men who accidentally can command a given amount of money.

These observations render it unnecessary for me to say that this work is not designed as an attack upon the prevailing system of education. None can more sincerely recommend to youth an early and prolonged enjoyment of the advantages afforded by our schools

than the writer ; none can more truly wish that these advantages were universally available. But this, it is well known, they are not and cannot be. A great revolution must occur in society—a greater than has ever yet been known—before even the lowest grade of literary institutions can become accessible to all. Something more is demanded than free tuition ; books, clothing, board, direction, and exemption from the restraints of parental authority, wherever that authority is averse to such pursuits, are equally requisite. Now if such difficulties are to be encountered in finding access to subordinate institutions, there are certainly much greater ones to be met when our attention is directed to institutions of a higher grade. Schools of this class are not only less frequent and less economical, but they offer their assistance at so late a period that the youthful mind is in great danger of being pre-occupied. Before the preparatory academical education can be secured, many are drawn into the vortex of active life, and lost to all the advantages of knowledge. We have then only to make the

best of that necessity which hitherto has proved unavoidable, and give such directions to youth as their embarrassed condition requires, and the known ability of the human mind will justify.

CHAPTER I.

PRELIMINARY OBSERVATIONS ON THE CONSTITUTION OF THE HUMAN MIND.

EVERY system of education must depend for its success upon a strict conformity to the laws of mind. Peculiar circumstances might give temporary efficiency to a system wanting in philosophical adaptation, but the subsequent and general result would justly forfeit public confidence. From the limits, however, which must be assigned to this chapter, I shall aim rather to lay down principles than to discuss them.

1. *The operations of the intellect are uniform in manner.* By this I mean that what the intellect does, it does in one way, although the result of its action is not always the same; it reasons, remembers, perceives, imagines, and performs every other act of which

we know it to be capable, in the same inscrutable manner, and apparently without any plurality of organic powers. In fact, all acts of the mind are only modifications of thought, and in affirming that these acts are characterized by a certain uniformity, we merely assert that, in this respect, the process of thinking is subject to no perceptible variation. This uniformity in the practical operations of the mind shows that its various faculties have been constituted with similar perfection; that its powers are equally endowments from the Creator, and independent of contingent circumstances. If only a part of our intellectual faculties had an inherent competency, we should be disqualified for our present existence; for there is not a day nor scarcely an hour of active life in which the perfect use of all these powers is not indispensable. Because they are thus equally necessary, they have been constituted equally perfect, and placed with the other instinctive powers of human nature, beyond the reach of any considerable organic improvement, and wholly independent of cultivation. The at-

tributes of the mind, like the members of the body, derive their perfection simultaneously with their existence from the creating hand. From their conservative tendency they have been made constituent parts of our being: and so far from being dependent upon education are they, that education is wholly dependent upon them. The idiot is incapable of mental culture, and every degree of imperfection in the intellectual faculties is attended with its proportionate incapacity for education. The uniformity of manner which we ascribe to the functions of the intelligent principle has too often been overlooked by metaphysicians, and they have involved themselves in numberless errors by attempting what in its nature is impracticable—an exposition of the secret springs of mental action. Not satisfied with knowing that the mind is endowed by nature with a capacity for certain acts, they have aimed to detect and bring to light its occult methods, and thereby strip its acquisitions of all mystery. Such subjects were once deemed legitimate objects for philosophical inquiry, and under the in-

fluence of this conviction the most eminent men freely entered the lists of fruitless speculation.

2. *The operations of the mind are intuitive.* Intuition implies the spontaneous exercise of natural powers. We think as naturally, and I may add, as necessarily as we breathe, and the mind no more learns to think than the body learns to respire. Hence, whatever modification of thought may be put forth, whether it be memory or imagination, perception or reason, it is the effect of unoriginated capacity, and involved in the constitution of an intelligent nature. Some metaphysicians have very carelessly ranked intuition as a distinct faculty of the mind, whereas it is in no sense a faculty, but merely denotes the manner of all the faculties. Of this process we know nothing except its occasional dependence upon certain physical conditions, as, for instance, in perception, where the mind is mechanically assisted by the organs of vision. But as we cannot perceive how the mind operates upon these instrumentalities, nor comprehend any

of its essential powers, we are forced to admit that it acts by intuition—that is, in a way which we do not understand, but which requires neither previous time nor previous preparation.

3. *It is further to be observed, that these acts of the mind are naturally perfect.* In this respect the strictly intellectual faculties bear a striking analogy to the corporeal senses, and to the involuntary functions of the physical system generally, none of which become more perfect by the lapse of time, or admit of essential improvement by means of cultivation. The eye is as perfect, the precision of instinct as great, and the self-regulated movements of animal mechanism as harmonious and efficient, in infancy as in manhood. And so far as the operations of intellect can be traced at that feeble period, they indicate the same measure of innate and constitutional perfection.

Not only are the faculties of the infant mind perfect, but they possess all the peculiarities which are to distinguish them in subsequent life. A remark to this effect oc-

curs in one of Dr. Johnson's biographical pieces. "That the strength of Sydenham's understanding, the accuracy of his discernment, and ardor of his curiosity, might have been remarked from his infancy by a diligent observer, there is no reason to doubt. For there is no instance of any man whose history has been minutely related, that did not in every part of life discover the same proportion of intellectual vigor."* If we allow that the acts of the mind are intuitive, their perfection follows as a necessary consequence, because intuition places them beyond the reach of cultivation. They are the result of a process independent of human sagacity or control, and originate in this manner, that man might under all circumstances be competent to act the part of a rational creature. But for this precaution of nature, rationality would have been a contingent blessing, confined entirely to the precincts of education.

4. *Mind acts necessarily, but is capable of voluntary direction.* Locke observes that,

* Life of Sydenham.

“our knowledge, as in other things, so in this, has a great conformity with our sight, that it is neither wholly necessary, nor wholly voluntary.”* Action appears to be as natural and as indispensable to the intellectual as to the material part of the human system. Whether the intelligent principle ever intermits its activity, is another question, and one, which, however it may be decided, cannot determine the mode of its operation in our conscious moments. The eye sees in all ordinary cases, by constitutional necessity, and yet its action may be suspended either by sleep or the will of the individual. It is not optional then, with the intellect, whether it thinks or not, nor is it altogether able to determine the objects about which its constant activities shall be employed. That it has the power of self-direction, to some extent, is certain, although its course is liable to a thousand interruptions. It is, however, to this capacity for voluntary direction that the mind is chiefly indebted for its scientific acquisitions. Still its method is unchanged,

* Book 4, chap. 13, sec. 1.

and the knowledge which is acquired by voluntary application is gained in the same manner as that which is forced upon us by nature. All the facts which are requisite for man to know do not naturally present themselves to his observation, and he has the power therefore of bringing art and industry to increase the stock of his knowledge. But as the eye has only one method of vision for all objects, whether natural or artificial, so the intellect scans the creations of its own industry and the spontaneous productions of providence, with the same intuitive glance. Some things we must know, others we may know, but contingency neither precludes intuition nor enables us to dispense with it. The various sciences are so many instances of truth elaborated by a voluntary application of intuitive powers. Human nature is therefore invested with faculties which, if they do not admit of material improvement, are nevertheless capable of useful direction.

5. *Our intellectual faculties are so constituted that the improvement of which they are susceptible, consists chiefly in the acquisition*

of knowledge, and not in the increase of organic power. The common impression on this subject seems to be that the mental faculties exist only in an incipient state, or as bare susceptibilities. We are accustomed therefore to look upon these powers as germs which must be expanded in order to form an intellectual character. It is considered the appropriate work of education to bring them to maturity by actual expansion. People have seen that the mind is capable of improvement, and have carelessly imputed to an acquired perfection of its faculties, what can only be properly ascribed to a judicious use of those faculties. Improvement is something very different from an augmentation of constitutional ability; the former may be effected by industry, the latter must be the result of creative energy; the one requires only the proper use of our powers as they now are,—the other demands their reconstruction on a larger scale. But in no department of nature is organic development entrusted to human supervision. Providence has made arrangements for the complete en-

dowment of its creatures without the need of their concurrence. The seeds have not been planted to await the culturing hand of man; whatever exists in our nature in a rudimental state is attended by influences that ensure its spontaneous development and maturity in due time for every practical purpose. It is, however, from facts connected with the history of the mind that this notion derives its effectual refutation. Education has never been known to add anything to the intrinsic ability of the human intellect. In every age of the world uneducated mind has proved itself equal to the highest efforts of genius; and when brought into comparison with the most approved specimens of cultured intellect, the latter is found to have acquired nothing essential by the process through which it has passed. In this respect knowledge is like wealth—it adds nothing to the talents of its possessor; a man may amass property, but his physical and intellectual faculties will remain the same as before. Were it the case that our minds could be thus expanded, the results of education would be

greatly modified, and every weak understanding would find a sovereign remedy in the invigorating power of science. Such a pleasing consequence of industry might be gratifying, but it has never yet occurred, and never can, until the laws of nature are changed. Man now brings to the study of truth, powers which gain nothing by his researches, or at least nothing more than the eye gains by seeing, or the body by exercise. Their first and their last exhibitions are equal. No great character that has appeared in any department of human enterprise, has ever been less acute or less efficient in his first than in his subsequent efforts. Sir Isaac Newton made his two most important discoveries, Fluxions and Gravitation, before his twenty-fifth year. A long life, with all the advantages of constant study, did not enable him to display greater skill in scientific researches. Had his faculties been capable of such an expansion as is commonly supposed, the latter period of his life must have been marked by a corresponding brilliancy over the earlier part of his intellectual career.

Another objection to this view of the subject is, that an increase of organic power is wholly unnecessary. We do not need a development of new powers, but simply an application of those which we already possess. The mind has unemployed strength sufficient for all its wants. It is now competent to know every useful truth, and any addition to its ability would be as superfluous as it is impracticable.

Now although the idea of eliciting the powers of the mind, and thereby giving them a perfection not otherwise attainable, and which they did not previously possess, is obviously unphilosophical, as well as contradictory of facts, yet it remains an established truth that intellectual improvement is both practicable and necessary. While the acquisition of knowledge has no organic effect, it still subserves all the important uses for which it was intended. Knowledge is a species of treasure accumulated to be applied as the wants of life require. It is a power which the mind has learned to employ for its own advantage. Mechanical powers add

nothing to the strength of man, and yet by their means he is able to accomplish undertakings inconceivably beyond his unaided capacity. In like manner art and science contribute nothing to the mind, though through their instrumentality it can effect the most gigantic achievements. Archimedes baffled the power of armies, Columbus terrified the inhabitants of the West India Islands into submission, and La Place quieted the fears of mankind as to the "wreck of matter and the crush of worlds" from obicular derangement; but in neither instance did these great men rely upon their unaided faculties, or wield any other power than that which science supplies to every diligent student. By nearly all that civilization exceeds a savage state, are we indebted to the transforming influence of science—an influence not restricted to superior abilities, but as universally available as anything can be which depends upon the industrious application of common-sense. The savage has powers abundantly sufficient if he would apply them; the attributes of his mind need only a proper

direction to make him the peer of civilized man. His faculties need no improvement but that which is derived from the possession of knowledge, nor does his condition require any but that which arises from the use of his faculties.

6. *The acquisitions of the mind depend upon its own exertions.* I shall not inquire how the first idea makes its way into the mind, nor whether such idea is innate or not; such an inquiry appears to me both useless and absurd. We might as well inquire when the first sound fell upon the ear, or the first pulsation dilated the heart. Mind began to think when it began to exist, and its thoughts, which we term ideas, can be traced to no origin but the instinctive activity of its own nature. Man thinks because he is made a rational creature, and he will continue to think while this attribute of his constitution remains, however assisted by the suggestions of sense, or embarrassed by the want of innate ability. Rejecting speculations of this kind as too intricate to be successful, and too profitless to deserve attention, we fix upon

the far more important question which relates to its subsequent advancement. It is not necessary to remark here by what modification of thought, knowledge is most likely to be gained, as that subject must necessarily come up in another part of this work. Aside from that knowledge which is inseparable from a rational being, there are vast collections of scientific truth to which the mind has only a contingent relation ; they are not among its necessary, but its possible attainments. That the contingency involved in these acquisitions is nothing but mental exercise, is a proposition almost too plain for argument, and yet it has been overlooked in practice and in theory, until many imagine that knowledge is acquired by some mysterious and unassignable process over which industry has no control. The difference in the attainments of different individuals may, in part, be ascribed to a diversity of intellectual endowments, and, in some degree, likewise, to the character of their opportunities ; but the prevailing circumstance by which the knowledge of each is determined will be

found to consist in the extent and judiciousness of personal application.

7. *The acts of the mind are uniform in manner and perfect in nature, but greatly diversified in the character of their objects.* From this variety of direction, there naturally arise the various descriptions of mental character to which we give the name of genius, and which are generally supposed to imply some constitutional superiority. Intellectual parity finds few advocates, though there are sufficient reasons for believing that all minds are endowed by nature with about the same degree of strength. This conclusion is justified by the actual attainments of every rational individual. "If all human science were to be divided," as Rousseau says, "into two portions, the one comprehending what is common to all mankind, and the other only that stock of truths which is peculiar to the wise and learned, he can scarcely be regarded as delivering a very extravagant paradox, in asserting that this latter portion, which is the subject of so much pride, would seem very trifling in comparison of the other," But of

this greater portion, we do not think, as he truly says, partly because the knowledge which it comprehends is acquired so very early, that we scarcely remember the acquisition of it, and still more, perhaps, because since knowledge becomes remarkable only by its differences, the elements that are common in all, like the common quantities in algebraic equations, are counted as nothing.

“If we knew nothing more of the mind of man, than its capacity of becoming acquainted with the powers of so vast and so complicated an instrument as that of speech, and of acquiring this knowledge in circumstances the most unfavorable to the acquisition, without any of the aids which lessen so greatly our labor in acquiring any other language far less perfectly in after life ; and amid the continual distractions of pains and pleasures, that seem to render any fixed effort absolutely impossible. We might, indeed, find cause to wonder at a capacity so admirable. But when we think of all the other knowledge which is acquired at the same time, even by this mind, which we have selected as one of

the humblest,—what observations of phenomena, what inductions, what reasonings downward, from the results of general observation to particular cases that are analogous, must have occurred, and been formed, almost unconsciously, into a system of physics, of which the reasoner himself perhaps, does not think as a system, but on which he founds his practical conclusions, exactly in the same way as the philosopher applies his general principles to the complicated contrivances of mechanics, or the different arts. When we think of all this, and know that all this, or at least a great part of all this, must have been done, before it could be safe for the little reasoner to be trusted, for a single moment, at the slightest distance from the parental eye, how astonishing does the whole process appear; and if we had not opportunities of observation, and in some measure, too, the consciousness of our own memory, in our later acquisitions to tell us how all this has been done, what a variety of means must we conceive nature to have employed, for

producing so rapidly and so efficaciously, this astonishing result !”*

The acquisitions which are thus unconsciously made by every ordinary understanding, are no less remarkable for their character than for their extent, as they comprehend facts of every order, from the highest to the lowest that can be addressed to the human mind. No greater intellectual power is requisite than has already been exercised by every individual, for there are no harder tasks than have already been performed. But, notwithstanding, while under the tuition of nature, all minds seem to possess equal ability, we find when left to themselves a marked disparity—or what appears to many as a disparity. Genius is regarded as indicating superiority of mind, rather than peculiarity of direction. It would be idle to deny that some minds have a peculiar aptitude for particular acquisitions, but it is no less absurd to suppose that such minds are correspondingly great in all other departments of intellectual effort. This ap-

* Brown, *Philosophy of the Human Mind*, vol. 2, p. 170.

titude is by no means the result of any uncommon endowment ; for the fact that every mind has sufficient capacity while its education is directed solely by nature, shows that the difference in question cannot be ascribed to a want of constitutional ability. Even the weakest mind actually learns enough to demonstrate its capacity for the highest attainments.

CHAPTER II.

EDUCATION.

THE supremacy of human nature is one of mind. Man with no more knowledge than a brute would be as powerless. His constitution as a rational being, gives him an inevitable superiority over the lower orders of animal existence; but he is also capable of diversified and extensive attainments which can only result from a voluntary application of his faculties. This application and its results we are accustomed to denominate education. The term is derived from the Latin word *educō*, which signifies "to nourish," "to bring up," "to draw out," "to teach or instruct." These definitions obviously include the two-fold idea of organic development and scientific acquisition. But it is one thing to determine the etymological import of a word, and another to fix

precisely the character of the facts of which it is made the representative; for it is well known that words are not always used with strict regard to their original meaning, nor applied alone to things which are clearly understood. In the present instance there can be no dispute as to the different meanings which the original word will bear, but it may well be questioned whether these are all equally applicable to the subject of mental improvement. Education is generally understood to aim no less at invigorating the intellectual faculties, than at imparting useful knowledge; both objects are considered legitimate, if not necessary results of the process. But if these faculties neither need nor admit of any direct cultivation, as I have stated in the previous chapter, it follows that the prevalent opinion is unfounded and ought to give place to a more philosophical estimate of the human intellect. The notion of organic improvement carries with it a discouraging tendency, inasmuch as it represents the mind to be nothing, or next to nothing, until it has been expanded and

strengthened by education—an idea more absurd than would be the supposition that we had no eyes until they were elicited and brought to maturity by the action of light and the process of vision. In the latter case our eyes would still be provided for by an arrangement of nature, though somewhat delayed; but in the former case, mind, overlooked by providence, becomes solely the creature of education—that is to say, the noblest attribute of man is not original but acquired. It is remarkable that the prevailing system of education affords no countenance to this absurdity. Every science taught in our schools, has been introduced for the ostensible reason that it relates to useful facts. No object is formally pursued but the acquisition of science. Accordingly the progress of the student is usually facilitated regardless of the effect which his attainments may have upon his mind; he studies to know things, and knowing them, nothing more either is or ought to be required. Some sciences, it is true, have been thought to exert a more powerful influence

than others in disciplining the mind ; but this discipline is never formally attempted, because the practical philosophy of mankind repels their speculative errors. The difference of effect is owing to the nature of the several truths themselves, or to the method in which they are acquired, and not to any organic power which they are able to impart to the mind. Truth is powerful, and enables the mind to do what ignorance had made impossible. What we impute to discipline belongs only to knowledge ; it is the same intellect acting with greater advantages—the same agent employed under more favorable circumstances. The mode of studying some sciences—a mode rendered necessary by their abstract nature, doubtless requires greater attention as well as more careful observation, and thus by employing the mind more fully, adds corresponding advantage, without any increase of essential power.

I am obliged, therefore, to conclude that knowledge is the principal object of education. Science is to be cultivated, and not the mind. In the invention and acquisition

of science, there is an ample field for the best abilities of human nature, and a field where each is competent to act without the aid of previous preparation. He who is furnished with knowledge acquired by his own industry, is to be considered as educated, and his education is valuable or worthless just in proportion to the character of the facts which he has learned. Mere assistance does not vary the case; science may be improved and the labor of acquisition abridged; but the nature of the practical effort, and of its attendant effects, is unchanged. The manner, as well as the matter of our scientific pursuits must be estimated solely by its tendency to enrich the mind with useful knowledge.

Education includes the means no less than the end—the application of the mind no less than the knowledge by which it is sure to be rewarded. As in all other instances, so in this, we find a constant connection between cause and effect. The common theory which ascribes our attainments, in part, to an increased constitutional ability, does indeed

assign a cause, but one that is wholly imaginary. In the true spirit of conjectural philosophy, it overlooks the real and simple cause to fix upon one more imposing in a fiction of its own creation. Mental activity is an invariable condition of knowledge. Mind must think in order to know, and probably must know whenever it thinks. Thus a process of thought becomes an indispensable part of education, and the mind by a voluntary observation of truth, is seen to collect those treasures of science so essential to its dignity and usefulness. Diligence here often displays itself in favor of mediocrity of talents, while genius, regardless of the law of improvement, and unconscious of its relative superiority, or vainly relying upon its powers, falls behind through idleness. We must not, however, suppose that education is intended to teach the mind how to think. Such assistance must be superfluous, as nature furnished the requisite skill for every intellectual process, when it formed the mind a cogitative being. Then the power of thought was placed beyond the reach of contingency,

and to education was assigned the humbler office of directing, in some measure, the application of our faculties.

From these observations it is evident that education begins with the first, and ends only with the last attempt to learn. But we usually employ the term to express those acquisitions of knowledge which are the result of a more special application of the intellectual powers. Such efforts are made at school, and hence we properly speak of acquiring education at places of this kind ; not that we can acquire it nowhere else, for that would be to suppose either that we had no minds except at school, or that they were useless in every other place. An attempt to confine the use of the word to such acquisitions as are made at school, can only have the effect to destroy its meaning. With many education has now become altogether an ambiguous term, in consequence of its being so frequently misapplied. According to the present usage the dunce who passes a few years in some literary institution is considered educated ; while the talented and faithful, but secluded stu-

dent, may spend his whole life in intellectual pursuits, and yet die uneducated. Judged by this rule, such men as Franklin, Bunyan, Baxter and Shakspeare, had no education ; they are believed to have been persons of great mind and great industry, but cannot be allowed a place among educated men.

The acquisition of knowledge is the great object, and whatever conduces to this, whether it is literature or the want of literature, the presence or absence of any assignable advantage or disadvantage, is a means of education, and valuable just in proportion to its efficiency in accomplishing the desired result. All that the prevalent system of instruction can claim, is that it aids to some extent in this work ; it pretends to no sovereign efficiency, nor can it boast of any triumph over constitutional impediments. Its aim is to be a servant of mind, and aid it in gathering the treasures of science by means of those faculties, which without some foreign assistance, are too apt to lie concealed even from their possessor, and useless both to him and the world.

CHAPTER III.

SELF-EDUCATION.

WE have shown in what education consists ; but that particular form of it now under consideration, as the subject of this volume, requires still further notice. The common opinion seems to be that self-education is distinguished by nothing but the manner of its acquisition. It is thought to denote simply acquirements made without a teacher, or at all events without oral instruction—advantages always comprehended in the ordinary course of education. But this merely negative circumstance, however important, falls far short of giving a full view of the subject ; it is only one of several particulars equally characteristic of self-education as contrasted with the popular system. Besides the absence of many, or of all the usual facilities for learning, there are at least three

things peculiar to this enterprise, namely: the longer time required, the wider range of studies, and the higher character of its objects.

Our schools claim only a few years; they graduate students after a comparatively limited time, and never again exact lessons from them. It is not so with the Alma Mater of the self-educated; she claims life as the term of study and gives instruction to the last.

The course of study in our best literary institutions is far from including all that might profit the student. Reference is always had to the brevity of the period to which his acquisitions must be confined; and as a consequence many branches of science, which under other circumstances would have had a place in the list of studies, are necessarily excluded. Self-education, by bringing into requisition the whole of our available time, provides for an enlargement of the course of study. Its plan is commensurate with human ability, and exceeds the popular standard by all that the mind is capable of ac-

quiring beyond the tasks imposed upon it at school.

In the schools, as at present constituted, all acquisitions are confined to pre-established science. No effort is made to enlarge the boundaries of knowledge, nor is there any ambition to do more than fairly understand what others have written. This is an unavoidable trait of such institutions; it is impossible to infuse into them a spirit of invention and discovery without weakening too much that reverence for authority, on which their dignity depends. Schools are organized solely for the diffusion of knowledge, not for its improvement. Their highest object is to tread undeviatingly in the beaten path of science, without once entertaining those perplexing questions which address themselves to such as are engaged in original inquiries. But the limits of self-education are far from being thus restricted. In addition to cultivating an acquaintance with the attainments of former scholars, the student is expected to extend his researches to new departments of knowledge. The known and the unknown

are equally legitimate objects of pursuit; they are both embraced in the same comprehensive design, and thus united constitute a task worthy of the intellectual faculties.

Now although all these co-ordinate points of distinction are necessary to a complete survey of this subject, yet we do not wish to be understood that the question is not one of much consequence, even when considered as involving nothing but the mode of attainment. Let the schools be taken as the standard, and it becomes desirable to know whether the knowledge which they dispense can be obtained by other means. If it cannot, then we are obliged to admit as a principle in mental philosophy, that the powers of the mind are measurably dependent upon these institutions. This being the case, those who are shut out from such advantages must of necessity acquiesce in an inferior scholarship. Considered in this light alone the question is one of more than ordinary interest. It is, however, only by advancing to the other peculiarities which have been mentioned, that we can perceive the true dignity of self-edu-

cation. Its means, its plans, its objects, to be fully appreciated, must be compared with the more circumscribed scheme of popular education. Regarded in this connection it no longer appears doubtful and imperfect—a questionable substitute for scholastic facilities; but it assumes an elevation which the artificial system can at best but feebly approximate. It becomes the great method—the exclusive method of improving science; and it opens to the mind the only field sufficiently extensive for the exertion of its abilities. Certainly, in this view, the correctness of which cannot be disputed, we may justly say with a late writer, that “The subject is one of immense importance. If language contains one word that should be familiar—one subject we should wish to understand—one end on which we should be bent—one blessing we should resolve to make our own—that word, that subject, that end, that blessing should be in the broadest sense of the expression, *self-improvement*. This is alike the instinct of nature, the dictate of reason, the demand of religion. It is in-

woven with all to which it is possible, either to aspire or to rise. It appeals to us as men—calls us to the highest and noblest end of man—reminding us that God's image is upon us, and that as men we may be great in every possible position of life. It tells us that the grandeur of our nature, if we will but improve it, turns to insignificance all outward distinctions; that our powers of knowing and feeling and loving—of perceiving the beautiful, the true, the right, the good—of knowing God, of acting on ourselves and on external nature, and on our fellow-beings—that these are glorious prerogatives, and that in them all there is no assignable limit to our progress.”* Such is self-education.

* Rev. Tryon Edwards, *American Bib. Repos.*, Jan. 1841.

CHAPTER IV.

PRACTABILITY OF SELF-EDUCATION.

THAT self-education is practicable, must appear from various sources. So evident indeed is this fact, that the purpose of this chapter is illustration rather than argument. According to the view just exhibited, it assumes the character of a self-evident truth, and as such demands investigation but not proof. The following are the principal sources relied upon for supporting the position here taken.

1. *The nature of education.* Education is the effect of mental industry directed to the acquisition of science. Now we must admit that self-education is practicable, or deny that the mind is capable of thinking without the aid of a teacher.

2. *Faculties of the mind.* These are natural endowments, brought to perfection, like our physical powers, without the aid of hu-

man culture, and operating intuitively with unimprovable exactness. Such faculties place education within the reach of all, and make the customary facilities for learning, matters of mere convenience, which may safely be dispensed with whenever circumstances require. Powers of this instinctive and pre-existent character cannot consist with mental vassalage except upon the condition of voluntary acquiescence on the part of their possessor.

3. *Condition under which all original scientific pursuits are prosecuted.* I speak not now of acquisitions made at school, for in these institutions neither students nor teachers often aim at originality. But there are other if not higher intellectual researches constantly devolved upon the mind under circumstances which do not admit of the aids of supervision. Not to mention that we are ushered into a world where much of our success even in common affairs depends upon our own unaided powers of observation, it is obvious that every scientific improvement must be the effect of self-directed energy.

That which is not known cannot be taught; therefore if we have anything new in science, it will be the result of original and independent efforts. Could all be satisfied with things as they now are, and yield themselves to one unvarying course of instruction, then the mind might always be guided by authority, and the schools would become the chief dispensers of knowledge. But this cannot be. Science must advance beyond its present position, and every step of its progress will be the triumph of individual genius over the didactic art. Our schools do not originate science, and the different branches taught in them are contributions from the intellectual wealth of the solitary student. Instruction is confined to principles already established, and pupilage ceases where invention begins. Hence it follows that self-education is as practicable as the search of truth, and every science is a monument of its success.

4. *Incompetency of schools to furnish the requisite knowledge.* That literary and scientific institutions can teach what they profess to teach, we have no doubt; that much

of what they teach is profound and useful, it would be folly to deny. Still there are departments of knowledge in which they are obviously unable to afford instruction, because the attainments of those who would be pupils are far in advance of those who must be teachers. What college or university could have instructed Copernicus in astronomy, Galileo in optics, Columbus in navigation, Shakspeare in poetry, Locke in metaphysics, or Newton in mathematics? We are aware that some of these men had been educated at college, but the exalted acquirements which have handed their names down to posterity were not the fruits of college life. In everything peculiar to them, or in any way affecting their greatness, Locke and Newton were as really self-educated as Columbus and Shakspeare. These men aspired to what was unknown in their times; their researches extended beyond the supposed boundaries of science. No institution could either aid their inquiries or determine the propriety of their course. From this it is evident that the highest and most successful efforts of the mind

are necessarily independent of tuition. And if the noblest achievements of which the intellect is capable, can be accomplished without a teacher, may not every inferior task be easily performed in the same manner? In a word, if able to originate science, may not the mind readily acquire that which others have originated?

5. *Incidental character of the assistance afforded by schools.* The diligent student, although pursuing his studies at school, will in fact be self-educated, for his teachers have nothing to do but hear him recite. He repeats in their hearing what he had learned alone, and as much alone, as if such an institution had never existed. It is not, therefore, too much to assert that a thorough student is necessarily his own instructor. His industry renders assistance superfluous,* and

* An early tutor of Sir Walter Scott notes this particular in the education of that extraordinary man. "Though, like the rest of the children placed under my tuition the conducting of his education comparatively cost me but little trouble, being, by the quickness of his intellect, tenacity of memory, and diligent application to studies, generally equal of himself, to the acquisition of those tasks I or others prescribed to him. So that Master Walter might be

pushes him forward faster than the current of instruction could carry him, or than will allow him to profit by its favoring tendencies.

But even the dullest and most dependent scholar receives only an incidental and unimportant advantage from the office of instruction. His time, his attention, his memory and his judgment must be in constant requisition in order to gain the knowledge which he is supposed passively to imbibe. And yet these requisites comprise everything essential to self-education. They have given us all the sciences which we now possess, and must give us all that we are hereafter to possess. The dependence which is created by leaning upon a teacher, seems to include nothing more than the difference in facility of comprehension between written and oral directions. That is, the advantage of the one is as much greater than that of the other, as a man can teach better than a book ; it is the simple difference between writing and speak-

regarded not so much as a pupil of mine, but as a friend and a companion, and, I may add, as an assistant also."—*Lockhart's Life of Sir Walter Scott*, vol. 1, p. 86.

ing. This, to be sure, is conceding the fact that every book is a teacher, and that those who have access to books are never without a competent instructor; yet the use of books has become so common that they have ceased to be looked upon in this light, and are regarded merely as pre-requisites to instruction. Hence they are employed in schools as much as in private, and the sphere of the living teacher is reduced to hearing recitations, or, in more general terms, to securing on the part of the student a thorough acquaintance with such standard works as are embraced in his course. If an author can be understood without additional assistance, then the labors of another teacher are not necessary, and may be dispensed with whenever convenience requires. Of the possibility of dispensing even with books, we shall speak in another place.

6. *History of literature.*—Education has never flourished in proportion to the multiplicity of schools. Its foundation lies deeper in human character than can be reached by such a cause. Literature and science are

rarely pursued because they can be ; a higher motive is requisite ; a motive, the inspiration of which will render assistance useless, and set difficulties at defiance. The origin of literature is buried in the deep shades of antiquity, and we shall forever remain ignorant of the exact circumstances under which it arose ; but this is the less to be regretted since its progress, with which we are familiar, must involve the very same principles which originally gave existence to the art of writing. Under certain circumstances individuals and nations have always devoted themselves assiduously to the cultivation of letters. This event has occurred either when superior talents have discovered the need of learning, or when popular energy has by degrees melted communities from barbarism into refinement. Literature is one of the results of activity—of that general activity on which all improvement depends. It is remarked by Mr. Keightley, that many of the best works have been produced in times of great excitement. “Though we cannot conclude that literary genius is the creation of political cir-

cumstances, yet we may observe that it usually appears synchronously with great political events. It was during the Persian and Peloponnesian wars, that the everlasting monuments of the Grecian muse were produced ; and it was while the fierce wars excited by religion agitated modern Europe, that the most noble works of poetic genius appeared in Italy, Spain and England. So also the first band of Roman poets were co-existent with the Punic wars, and the second and more glorious, though perhaps less vigorous display of Italian genius, rose amid the calamities of the civil wars.”* Arabic literature flourished during the Saracenic conquests, but has ever since declined ; and Chinese literature, together with that of most Eastern nations, is evidently a legacy handed down from more enterprising times—its present possessors not being able to make any improvements, nor even to maintain the original trust unimpaired.

Learning is a commodity which the ignorant

* Keightley's History of the Roman Empire, part 1, chap. 1.

and the idle do not want, and whatever may be the facilities for its attainment, such persons cannot be successfully persuaded to seek it; they have other and more congenial pursuits, requiring less of the mind, and answering better the purposes of immediate gratification. Schools have rendered literature more accessible, but they have added nothing to the force of those convictions on which enterprise depends, and hence are to be reckoned only as an arrangement of secondary character—as a dictate of invincible purpose. It is from this purpose which can always command the means for its own accomplishment, that literature emanates, and not from our halls of learning. A cause which thus produces at once both science and its facilities, is surely equal to self-education.

7. *Successful examples of self-educated men.* Had it been ever so impossible in theory to trace the cause of education to any other source than that of scholastic institutions, still the numberless examples of self-education would have effectually contradicted such a conclusion. Both in ancient and modern times

a very large proportion of distinguished names are found to have risen to eminence by their own unaided exertions, and often in spite of yet greater disadvantages from positive opposition. It cannot be expected that from a list so extensive, we should select more than a few instances on the present occasion, and these will be taken from the moderns, as their history is best known.

Shakspeare, who stands confessedly at the head of dramatic literature, and who is one of the boldest, most profound, and most correct writers of any age, was altogether his own instructor. It is true that the events of his early life are not well known, but enough is known to render it certain that the elevated conceptions and inimitable style which have immortalized his writings, were not the gift of academic shades, nor of pedagogic toil.

Pope ranks high in the first class of original poets, and is justly acknowledged to be first among the translators of poetry. But he assumed from choice, not necessity, the responsibility of educating himself—a task well executed if enduring fame may be taken as

the measure of success. Dr. Johnson thus alludes to the subject: "Pope, finding little advantage from external help, resolved thenceforward to direct himself, and at twelve formed a plan of study which he completed with little other incitement than the desire of excellence."*

Thomas Simpson, one of the ablest mathematicians that Europe has produced, and the author of several valuable treatises, was entirely self-taught.

Defoe, whose name is familiar to most readers by his unrivalled tale of Robinson Crusoe, was an extensive and elegant writer, but independent of scholastic training.

Sir William Herschel contributed more than any other modern astronomer to that department of science, although he was from first to last his own teacher, and the maker of all his telescopes.

Sir Humphrey Davy not only mastered the science of chemistry without assistance, but extended his researches until important ad-

* Life of Pope.

ditions were made to that department of knowledge.

Dr. Franklin's eminence as a statesman and a philosopher is as little questionable as the fact of his being entirely self-educated.

Dr. John Mason Good was a scholar of the highest order in almost every department of science ; in medicine, in natural science, in classical and in oriental literature.

Another of similar acquirements, except, perhaps, in medicine, and the last to which I shall now refer, was the late Dr. Adam Clarke. This eminent man was no less distinguished for oriental than for classical literature. His proficiency in almost every science was too well known to leave a doubt of his being one of the maturest scholars of the age. But these, like the rest of the individuals here mentioned, received no assistance from colleges or universities. These examples are quite sufficient to show that education is within the reach of determined industry, whatever may be the paucity of external advantages.

There is, however, another class of learned

men who properly belong to this category ; I mean those who for various reasons left the university without finishing their studies, or who were eminent before entering there. Among the former are Lord Bacon, Gibbon the historian, and Sir Walter Scott ; the first two having left the University through disgust, and the last, that he might apply himself more particularly to his legal studies. That this designation does no injustice to Sir Walter, we have the very decided testimony of Mr. Lockhart. "As may be said, I believe, with perfect truth of every really great man, Scott was self-educated in every branch of knowledge which he ever turned to account in the works of his genius."* Among the latter are Grotius, Johnson, Murray, and Gifford. One of the works of Grotius, written prior to his entering the University, is said to be equal to any which he afterwards published. Dr. Johnson gives us the following statement of his early attainments. "It is a sad reflection, but a true one, that I knew almost as much at eighteen as I do now. My

* Life of Scott, vol. 1, p. 104.

judgment, to be sure, was not so good; but I had all the facts.”* Dr. Alexander Murray and William Gifford, both gained for themselves places, the one in a Scotch, and the other in an English University, solely by the merit of their unquestionable and unaided scholarship.

8. *The nature of science.*—We have shown that the faculties of the mind have a peculiar competency for the reception of truth—an aptitude which neither admits of material improvement, nor needs it. This fact naturally teaches us to look for a corresponding adaptation of science to those faculties, and the slightest observation is sufficient to show that the character of this relation is reciprocal. Knowledge is the food which satiates our intellectual appetency and gives strength to the mind—not indeed organic capacity, but supplies the means by which organic capacity becomes efficient. Hence the pleasures of science, or the attractive influences of truth, have ever been considered one of

* Boswell's *Life of Johnson*, vol. 2, p. 44. Johnson entered at Oxford in his nineteenth year.

the principal inducements to study. Milton's elegant description of these delights is familiar to all. "We shall conduct you to a hill side, laborious, indeed, at the first ascent; but else so smooth, so green, so full of goodly prospects, and melodious sounds on every side, that the harp of Orpheus was not more charming."*

It is further to be remarked that the truths of science are level to all observers. Education gives no new faculties, nor does it essentially invigorate those which nature has given us. The elements of knowledge, the facts which make up every science, are intuitively obvious to the diligent mind. All may perceive them who will take the pains, as labor alone is the price of their acquaintance. They are like a favorite view which can be had only from the summit of some lofty mountain, but which is equally within the reach of all whose industry surmounts the rugged ascent. Capacity for such acquisitions is manifestly co-extensive with common sense. There is no fact in science either above the comprehension or beyond the reach

* Tractate on Education.

of an ordinary intellect. Religion presents us with truths more profound and more important than human research has ever gleaned from the study of nature ; and yet the mind of man—of man through all the grades of intellectual character, down to where responsibility is lost in mental weakness—is competent not only to understand, but to carry into successful practice the highest principles of revelation. This shows us that things are not difficult of apprehension in proportion to their importance. It requires no more strength of mind to understand the highest than the lowest truth ; we comprehend truths without reference to their intrinsic character. The idea that great truths can only be known to great minds, would forever exclude the knowledge of God from all but a fraction of our race. Such a conclusion is no less subversive of philosophy than revolting to religion. There is, therefore, nothing impracticable in the nature of science ; it can neither be monopolized by the learned, nor lost for want of pre-requisites on the part of the student. Did truth disclose itself only

to minds previously developed according to the popular notion, then education would be the formation of capacities, and industry could avail nothing for want of constitutional power. But, except as one fact may help to know another, the learned have no pre-eminence above what nature has conferred. The natural equality of human understandings is not disturbed by the acquisitions of diligence, and hence we very frequently see those who have little of what is called learning, making important discoveries, while the more learned waste their time in fruitless speculations.

Analogy.—In every other pursuit mankind are necessarily self-directed; and it is singular indeed if the acquisition of knowledge violates the analogy which everywhere else obtains in active life. Is man less able to direct his mental than his physical energies? or, rather, is he less able to direct the energies of his mind when applied to the acquisition of science, than when applied to the acquisition of physical objects? We must either suppose that some fatality attends the use of his faculties in the one instance from

which they are free in the other, or admit that he is equally competent whether the objects of his action are physical or intellectual. The only school for great achievements is the common theatre of human enterprise, where every man is a master, and all are learners. The agriculturist, the mechanic, the statesman, and the warrior are thrown upon their own resources, and compelled to act, not only without direction, but frequently in opposition to the maturest counsel. In the highest department of science—that of invention, the same necessity prevails. Nothing can be done until the mind acts for itself independent of all authority. Even where much less than this is aimed at, science obliges all her votaries to an independent course. If they would throw themselves forward to future ages, it can only be by attaining such indisputable excellence as will suffer no depreciation from the lapse of time—by exceeding the standard of their own to meet the anticipated progress of future generations—by successful competition with the past, the present, and the future. That is,

instead of following authorities, one must himself become an authority in order to secure a lasting reputation. Such exertions as are required by an enterprise like this, cannot be the subject of tuition. They demand an energy and a knowledge as incommunicable as genius itself. Thus we have seen that in all physical pursuits, and in those intellectual operations, which from their greatness are removed from the sphere of scholastic supervision, the mind is quite equal to the task of self-direction, and cannot by any possibility, be subjected to pupilage. Under these circumstances, can we conceive it to be impracticable for any ordinary intellect to direct its own efforts successfully in the pursuit of knowledge, and especially that kind of knowledge which is usually taught in our schools?

In concluding this chapter, I have only to say that if these remarks have the appearance of claiming too much for self-education, the result was unavoidable. Facts admit of no compromise. If the human mind is incompetent to this task, it is capable of no other.

CHAPTER V.

PRACTICAL DIRECTIONS.

AMONG the attributes of a successful literary and scientific career, perhaps the following are the most important.

1. *An elevated and independent purpose.*—If those who aim sufficiently high, and who pursue their object by a right method, never fail to find embarrassments enough, what hopes can we have of those who are so groveling in their pursuits as not even to aspire to excellence? False notions have prevailed respecting the sources of knowledge, and the mis-direction of the public mind has followed as a necessary consequence. The same thing has happened to art. It was formerly thought that no one could paint successfully unless he had seen the works of Raphael and Michael Angelo; a trip to Italy was as indispensable as genius itself. Living artists were to be

praised only as their works conformed to this artificial standard of taste and perfection. By degrees, however, the spell was broken, and the fact dawned upon the public mind that these Italian paintings were but the works of men, and might therefore be equalled by men who had never seen them. This lucky admission of human dignity, so creditable to the present age, has reduced the stream of pilgrimage to the shrine of the ancient artists; though the sober use of such opportunities is still justly valued. A similar revolution has yet to take place in science, and particularly in literature. Before we can acknowledge the claims of any one to learning, we must know in what school he studied, and what authors he has read. If he claims to be a poet, Homer, Shakspeare, and Milton are referred to with all the composure imaginable, as the true standard of poetic excellence. The light of this brilliant triad is converged to a focus, in which the unfortunate candidate places his work for inspection, and if his solitary merits appear to disadvantage under these circumstances, the critics gravely tell

us the man is deficient in genius. Our directions to scholars of prospect are very simple and few. They are told to study the great masters, and to draw rules from the embodied wisdom of the fathers.* How many millions have read Homer, and yet were no poets! How many have pored incessantly over the volumes of original authors without imbibing the spirit and genius they so much admired! We forget that variety is the order of nature, and that her productions, though perfect in kind, cannot be reduced to any exact resemblance, nor to any uniform standard of equality. No course that could be devised, even if we hit upon nature's own plan of instruction, would raise every person to celebrity in the same pursuit; yet we can easily avoid the stupid process of adoption, and by pursuing a more congenial method, arrive at

* "The best way to learn Rhetoric would be to imbibe it at the fountain-head, I mean, from Aristotle, Dionysius Halicarnassus, Longinus, Cicero, and Quintilian."—Rollin's *Belles Lettres*, vol. 1, p. 340. Longinus gives about the same direction, (*Sublime*, sec. 14.) but in a manner which shows that he would not have a writer resign all pretensions to independent judgment.

whatever distinction Providence may have designed. Great authors, like great painters, are of some use to the young by way of example; they show them what can be done without precedent, and in circumstances such as every youth finds to be his own; but of all who need such assistance, the talented and ingenious student is the last. He is sensible of the merits of each distinguished writer, but his style and sentiments are borrowed from none—they are his own—they are the man, and his hopes are from himself, not from others. It is not at all improbable that his feelings often accord with the sentiment of Byron:

“Great things have been, and are, and greater still
Want of mere mortals little but their will.”

But for this feeling the author of “Hours of Idleness” would never have been the author of “Childe Harold.” Unless we are animated by principles of this kind, we become the blind admirers of ancient and foreign greatness; we put it forever out of our power to be anything but inferiors on the theatre of

life. Some have maintained that the beauties of the ancient poets are shut up in the languages in which they wrote ; that they must be lost to the world unless those languages are studied, as, in their opinion, they can never be translated. Leaving the correctness of this assertion to be settled by those who are interested, I shall only observe that if the loss is irreparable, it is by no means unmeasured. Our own language has furnished poetry not inferior to the most exalted of Homer's. If the subtlety of their idioms should deprive us both of their diction and sentiments, we certainly have of our own a style as grand, and thoughts as good. But why do we thus follow—no, for this obsequious imitation is but the reverse of those deeds which we wish to emulate. Our models were daring and untrammelled, but we, with vanity sufficient to affect their greatness, have not wisdom enough to maintain their independence. The necessity for aiming at least as high as others have done, and for acting with a similar freedom from all restraint, is a principle which everywhere pervades the in-

ductive philosophy. Bacon's precepts are no less remarkable for their boldness than for their success; take for example the thirty-first aphorism of the *Novum Organum*. "It is in vain to expect any great progress in the sciences by the superinducing or engrafting new matters upon old. An instauration must be made from the very foundations, if we do not wish to revolve forever in a circle, making only some slight and contemptible progress." Independence, or what Dr. Reid calls a manly state of mind, is one of the first endowments of a well-regulated intellect. The mind is naturally and properly biassed in favor of its own conclusions; but when difficulties occur, there is a propensity to yield to authority and precedent. Nor may we censure without restriction, such acquiescence. Yet the mind must feel itself competent to decide on the soundness of its own conclusions. The supremacy of reason over all authority, and the sufficiency of reason to establish new precedents for itself, are facts, the knowledge of which is antecedent to any extensive or enlightened researches. Mind can no more

improve without resolving facts into their original principles than vegetation can subsist without acting upon the affinities of matter." So accustomed are well-informed and vigorous minds to this digestion or resolution of truth, as scarcely to have a consciousness of the process. This process is what Mr. Locke terms, "bottoming," and however useful it may be for children to find, in authority and precedent, a bottom for many of their ideas, it is neither wise nor safe for us to be influenced by a provision designed solely for our intellectual minority.

2. *The next particular is a right direction of studies.*—Many have failed in attempting an education, more from the want of a settled and judicious plan than from any other cause. The object to be attained is definite, and the aim should be proportionally accurate. By education is to be understood a knowledge of the sciences, more or less extensive, but always comprehending a thorough acquaintance with their general principles. It is obvious, therefore, that to secure this, a course of general reading must be

very inadequate. General reading is indispensable in its place, but it cannot be substituted for a course of elementary studies. This regular training in the principles of established science is the object before us ; and though in itself it is but the preparation for action, yet as a preparation it is of the highest consequence. Writers of the last century were in the habit of calling this early initiation, the foundation of the fabric of knowledge ; but the expression is quite too strong, as these studies relate less to knowledge as a whole, than to the particular systems of science now in vogue. In some instances the acquisition will only be as the philosophy of Aristotle was to Bacon, and the theory of Ptolemy to Copernicus—a means of disgust, and the occasion of new and unrivalled discoveries. Reflections of this kind abate nothing from the necessity in question ; for in several of the sciences the general principles are fully demonstrated, and therefore not injurious, though it should happen that still greater advances be made. Euclid's Elements have lost nothing of their

value by the improvements that have since taken place in mathematics. Besides it is not easy to judge of the truth or falsity of a system with which we are not acquainted. If the attention is not steadily directed to rudiments at first, the science, even if it should afterwards be acquired, will cost much more labor than if pursued in the usual order. It is not, however, intended by these observations to convey the idea that the present arrangements of science are not wholly conventional. But it is of little consequence who or what may have given form to the materials of knowledge, for method is only designed to promote convenience; and a very imperfect arrangement must be much better than absolute confusion. The danger to be guarded against is nothing less than the dissipation of force by ill-directed efforts. Power exerted without order wastes itself to no purpose; the limited and miscellaneous acquisitions by which it is followed are a poor consideration for the time employed, and none at all for the opportunity suffered to pass without improvement.

3. *Application*.—It is an undoubted truth that without persevering application scholastic attainments are impossible. All have admitted this, but the consequences of such an admission appear not to have been duly considered. Could all the advantages in the world be combined, they would not of themselves make a scholar; neither can their absence blast the hopes of determined application. The power of application has been questioned, whereas it is irresistible, and with only a right direction can surmount everything. But we often fail to perceive the practical aspect of things, the theoretic principles of which readily obtained our assent. No one will question the necessity of study, yet few seem to be satisfied that study makes scholars. The sight of eminence prompts us instantly to inquire for the helps, the extra opportunities which have led to proficiency, as though industry could not here claim its appropriate reward. Learned men have not only toiled diligently, but carried to their task a delighted imagination. Hopes of usefulness or of fame have ani-

mated their hearts to a devotion worthy of the objects to which they aspired. Under circumstances of this kind the subject is stripped of all those little mysteries which confuse the remote observer; and the connection of cause and effect is as visible in the profound attainments of the sage, as in the alphabetic knowledge of the child which can only repeat its letters as they are pointed out by the teacher. Scholars and men of genius are the last who affect to learn without trouble, their very efforts being not less remarkable than the success by which they are followed.

4. *Original Observation.*—The philosophy of study shows at once the power of observation. We cannot take the first step in learning any science without confining the attention to the principles before us. In this respect the first and the last steps are alike, and to one who had no previous knowledge of the subject, equally easy. He who observes the character of what he reads will not fail to retain what he learns, nor to place a just estimate upon its value. It is not

enough that we understand an author ; the perceptive and reflective faculties must be employed upon the nature and execution of his work. By thus observing the various excellencies and defects of standard writers, others have been able to carry forward their labors to much greater perfection. Unless the learned had painfully perceived the true character of those works which engaged their attention at school, the rude and imperfect manuals of former centuries would still have encumbered our seminaries ; and what is of far more consequence, science of every kind could at best but have continued stationary. It was observation that broke the spell which the Stagirite cast upon the nations, and that shivered the arm of Roman superstition. It is observation that must resuscitate the mind. Without it intellectual character is but a name—the scintillation of genius is exchanged for the meteor's glare. These, it may be said, are the higher walks of observation, the things to be done after knowledge is acquired. But of this we are far from certain. An excellent writer has said, "The

man who first discovered that cold freezes water, and that heat turns it into vapor, proceeded on the same general principles, and in the same method; by which Newton discovered the law of gravitation, and the properties of light. His *regulæ philosophandi* are maxims of common sense, and are practised every day in common life; and he who philosophizes by other rules, either concerning the material system, or concerning the mind, mistakes his aim.”* Observation is simply detecting what others had missed, finding what others had lost, or discovering what only awaited a glance of the eye. It is not a power which must be cultivated before it can act—not an act produced by preconcerted measures. All that is essential is that the person should have discernment enough to know the nature of what passes before him; his observations thenceforward are the basis of his knowledge. There can be no mistake in the perception of coincidences where the primary facts are well ascertained, for we instinctively judge in ac-

* Inquiry into the Human Mind, chap. 1, sec. 1.

cordance with the premises. Here then the student has always wrought with the entire strength of his mind; and his assiduity in tracing the steps of previous inquirers springs from no excessive veneration for their perfections, but from an assurance that emulation can in no other way be so well promoted.

As an encouragement to this work, let it be remembered that truth, which is the object of study, does not flow merely from facts of a certain order. Every fact has the same expression. All truth is in harmony with itself and leads infallibly to the same conclusion, though not always with the same directness. Science is the interpretation of nature. Whoever can seize upon the principle of arrangement displayed in the works before him, has all that science proposes to teach. In confirmation of this, might be cited the history of almost every invention or discovery. The identity of lightning and the electric fluid was established on both sides of the Atlantic at the same time, with considerable variation in the train of previous reflection, as also in the practical experiment. Seldom is the

honor of a discovery due to one man, and the historian finds it difficult to adjust the claims of rival pretensions. Nor indeed is it easier to tell in what age, or in what country an art was invented. Not in a few instances has the discovery or invention been the effect of accident; in others it has been the effect of premeditated design; and in all, the wonder has been, that so palpable a truth should have remained so long a secret. Persons may therefore hope, let their pursuits be as they will, to make observations that will be useful. Nor is it certain to what science such observations will most contribute. Buchan, whose work bids fair to outlive the professional reproach with which it was hailed, says, that most of the improvements in medical science have been suggested by persons who were not of the profession. The best confirmation of this remark is the sovereign authority of common sense as acknowledged in the most popular and valuable works of the day. From these the dogmatism of former times is excluded under a conviction that

the rational principle is the only test of philosophic inquiry.

5. *Analytical reasoning.*—Nearly allied to observation is that intellectual analysis always employed in the investigation of truth. It often happens to the ambitious youth that opportunities for cultivation are beyond his reach. Acquiescence is impossible. Let the difficulties be ever so great, the indomitable spirit knows its own strength, and will not yield. Every mind is susceptible of emotions, and the very pain inspired by a sense of destitution, furnishes materials for abundant reflection. The soul will investigate the causes of its own misery, and pry into the nature of things until it discovers those great principles on which improvement and happiness rest—principles which constitute the goal where the student, whether rich or poor, stops from desire as well as necessity. Little difference does it make, whence we derive the fact subjected to this analysis. Truth, as before remarked, is alike in every fact, and in its essence inhabits whatever can possibly engage our notice. It is therefore not neces-

sary that all aspirants should move in the same sphere. All the essential elements of truth surround each human being at every step in life; still more, they inhere in his very nature, and are inseparable from his constitution as a rational creature. But the man of genius pores over his subject with an intense anxiety to enlarge the boundaries of knowledge; he is not content to stop where others have done; he must have other if not better reasons, and in short he is impelled by a sense of duty to be original, deep and independent in his conclusions. It is only by subjecting the stereotyped lessons of science to this process, that we can develop those latent truths on which the progress of knowledge depends. That propositions or principles now received as elementary are susceptible of further analysis to an indefinite extent, is a fact no less certain in its character than extensive in its application. "The stage at which one inquirer stops, is not the limit of analysis, in reference to the object, but the limit of the analytic power of the individual. Inquirer after inquirer discovers truths,

which were involved in truths formerly admitted by us, without our being able to perceive what was comprehended in our admission. It is not absolutely absurd to suppose that whole sciences may be contained in propositions that now seem to us so simple as scarcely to be susceptible of further analysis, but which hereafter when developed by some more penetrating genius, may, without any change in external nature, present to man a new field of wonder and of power.”*

6. *Expansion of sentiment.*—If the mind cannot go abroad to gather from various sources, it takes hold upon whatever may be within reach, and out of just the material on hand a stately fabric is sure to rise. A single thought must serve instead of libraries. Having one principle in possession, the student feels himself connected with the immensity of truth, and it is soon perceived that the applications of which each truth is susceptible are more extensive than the best powers can accomplish. This idea is illus-

* Brown's Lectures on the Philosophy of the Human Mind. Vol. 1, page 490.

trated practically by all writers of fiction. They assume, in general, some leading fact, and on that alone build their subsequent speculations. The fact that such works are commonly worse than useless, is to be imputed to the sentiments introduced, and not to the manner in which they are written. A good author never wearies the reader by prolixity; however much he may expand the thought, his sentences are not wanting in substance. Let the reader take up the most attenuated essay of Johnson or Goldsmith, and he will find it rich in matter, as well as beautiful in manner. True genius is prolific of thought; it has the ability to dwell upon a theme without degenerating into fiction, or being disgusted with the necessary uncertainties of all intellectual labor. Some of the best works extant have been produced in this way; their authors began them with no intention of writing so extensively, but were induced to change their design by finding that the subject admitted of greater amplification. Speaking of his *Essay on the Human Understanding*, Mr. Locke says, "When I first

put pen to paper, I thought all I should have to say on this matter, would have been contained in one sheet of paper, but the farther I went, the larger prospect I had; new discoveries led me still on, and so it grew insensibly to the bulk it now appears in.”* Another scarcely less celebrated work—the Saint’s Rest—grew up in the same manner. “The second book which I wrote,” says Mr. Baxter, “and the first which I began, was that called the Saints’ Everlasting Rest. I began to write on the subject, intending but a quantity of a sermon or two, but being continued long in my weakness, where I had no books, and no better employment, I pursued it, till it was enlarged to the bulk in which it is published.”

7. *Universality of thought.*—Although it may often be necessary to spend much time in tracing the various relations of a single thought, yet there are too many who confine their researches to one or a few branches of inquiry. Not that it is possible even for genius to excel in every department; this is

* Epistle to the reader.

not to be expected or desired. But when important conclusions are to be established, it is essential that the mind should comprehend the several relations of the facts to which it has arrived. When conclusions rest upon a narrow basis, it is with great difficulty that the mind can be brought to feel their force, and to many, they will always appear no better than consequences deduced from hypothesis. The mind can judge of things only according to what it knows, and where its knowledge is insufficient if it presumes to act at all, there must necessarily be an exhibition of folly. Such persons are not more ready to receive a mystery, nor more easily persuaded than others, but they are capricious, believing where they should not, and refusing to believe where there are sufficient grounds of faith. And this error must always exist where the intellect is not accustomed to survey the entire system of things.

By extending his observations to other departments of knowledge, the solitary inquirer has it in his power to determine the value of all existing science, for every known fact

must be understood in conformity with the whole. If facts shall yet be discovered which clash with any of our principles, we must immediately modify our previous views to meet the demands of truth. The arts and sciences are constantly changing from this very cause. New discoveries are renovating and enlarging former systems, and the prospect of improvement increases with every accession of facts. Now these discoveries are most frequently made by men who, for some reason, have avoided the common path. And in estimating their merits, praise seems due to the course they took, rather than to the vigor of their powers. A popular writer has indeed cautioned us against relying upon thought for the acquisition of any part of our knowledge. "By thinking," says he, "we can arrange what we do know, so that we can more readily use it, and we make room for other knowledge; but we cannot think ourselves into an acquaintance with even the simplest thing that we do not know by some other means. It is the belief that we can; that thought can do what thought never did,

can do, or was intended to do, which lies as a stumbling block in our path, and hinders us from knowing a great many things that would be very useful as well as very pleasant to us.”* If this singular view of the intellectual economy were to be regarded, we should soon cease to think, and the facts furnished by observation would remain undigested in the mind; there would be neither inference nor application in reference to anything we know. But in fact there can be no such thing, for the observation which he recommends, is but a mode of thinking. It is to be sure a mode of thought not altogether so prolonged as the mind often has occasion to employ, but at the same time it is as really thinking as any other exercise of the intellect.

8. *Combination of practice and theory.*—Merely theoretical education has been subversive of the best interests of learning. The student removed too much from those associations which in practical life so powerfully assist the mind, usually retains but a small

* Mudie, Popular Guide to the Observation of Nature, p. 32.

part of his acquisitions, and these from the circumstances under which they were acquired are very imperfectly available. It has been conjectured, and not without probability, that only about one in every thousand of those who now study Latin ever acquire a tolerable knowledge of that language. Formerly it must have been very different, as scholars generally were able to read and write that language with facility, and many of them could speak it with fluency. Now we cannot account for this difference except on the ground that the mode of instruction has deteriorated. To study Latin was once almost as easy to the English, and much more common, than to study their vernacular tongue; then the language was employed for practical purposes, and to the study of abstract rules and definitions was joined the force of habit—habit, without which such acquisitions can neither be perfect nor permanent. If scholars do not succeed so well as they then did, it is because their attempts are not sustained by practice; because it is nearly impossible to learn a language which we do not use.

We are not unfrequently embarrassed by the repugnance of scholars to the sheer didactics of the school-room. They are anxious for instruction, but the initiatory process to most sciences is so painful and repulsive, that their patience is exhausted before they are enough advanced to feel the inherent impulses of truth. In this way discouragement is dealt out to thousands in the incipient stages of instruction, and they are left to deplore some fancied idiocrasy, or luckless conjunction of the stars, as the potent cause of their misfortune. But the real cause consists in the dismemberment of nature's plan. We have detached parts, to dis sever which, if it be not death, is at least an end of utility. That a child will walk, and talk, and reason, is too evident to be disputed; and yet all these things are learned in some way. The truth is, they are self-learned, that is, practically, or according to nature. Nor is there anything undesirable to the juvenile mind in the process of these acquisitions. Under the tuition of nature they learn almost unconsciously, and each step of the progress is

attended with delight and an irrepressible anxiety to proceed. A perfect system of instruction would be attended with similar effects when applied to any of the sciences. The great peculiarity of nature's method of teaching, consists in a series of imitations, or incessant practical attempts : on these hinge the whole of this extraordinary success. Nature evidently pays but little regard to theories. She sets her pupils immediately to copying. And if authority like this may be allowed to suggest the most efficient mode of instruction, we must fix upon that which employs immediately in practical operations the powers of the learner. The astonishing success which so frequently attends efforts at self-education is mainly attributable to this very circumstance. Compelled through a want of most of the ordinary means of instruction, they who thus distinguish themselves enter at once upon a course of original observations, guided by such hints as they have gleaned from common sources of information ; and the result is, that instead of treasuring up the ideas of others, and leaving their own

minds destitute of original knowledge, they soon acquire those habits of close thinking and deep research so essential to eminence.

Sir William Herschel and David Rittenhouse, two of the brightest lights in modern astronomy, began their successful experiments and observations almost coeval with their first acquaintance with the science. And this is the course universally pursued out of the schools in communicating the arts and sciences. Society left to itself, instinctively proceeds in the only natural method of teaching. Many who are eminent mechanics never had any instruction, and nearly all mechanics acquire their knowledge of their respective trades with very little written or oral instruction. Indeed no reliance could be placed upon merely verbal tuition. It might lead to a knowledge of the theory, but could never impart an actual possession of the art. This being settled with regard to the mode of studying the arts, it becomes a question how far the same principle is applicable to the study of literature and the sciences of the schools. Art, literature, and

science, are parts of the same thing ; there is no generic difference between them, and, consequently what holds true of one, must, with proper restrictions, hold true of all the rest. It follows therefore that the study of abstract rules unaccompanied by a practical application of them, can never make a scholar, or at least will not be more efficient for that purpose than the mere contemplation of a work of art is in producing an artist. "It ought never to be forgotten," says Dr. Dick, "that the habit of accurate composition depends more on practice, and the study of good writers, than on a multitude of rules ; and I appeal to every one who is in the habit of composing, whether, in the moment of committing his thoughts to writing, he ever thinks of the rules of syntax, except, perhaps, those now specified."* He had just cited three or four of the principles of syntactical arrangement as sufficient, in his opinion, for the early information of students. I would only remark, that what is true of the rules of syntax, as a help to

* Mental Illumination, &c., p. 130.

writing, is equally applicable to rhetoric, and most of the other prerequisites of authorship. Hence it appears that nature may succeed without art, but art without nature never can. Genius has ever shown itself independent of formal rules, and its most valuable productions have originated in the absence of those advantages, which, by superficial observers, are considered essential to greatness. So purely original is the mind in its achievements, that it seems to lay aside all direction and trust entirely to its own powers. For this, if for no other reason, the acquisition of abstract rules should be regarded of inferior importance to intellectual cultivation. The immediate effects of education conducted upon this principle would be various and eminently happy. Such useless abstractions and antiquated lumber as have been indiscriminately forced upon the attention of youth—things which can never be reduced to practice, would give place to elements of instruction, precisely adapted to their wants. Years of time now thrown away, because spent upon studies of no prac-

tical use, would be saved for the nobler purposes of life. Instead of transmitting to posterity the exact lessons that were taught a hundred years ago, the march of improvement would be facilitated, and new discoveries and principles equal if not superior to any now known, would be added to those of former times. Franklin, Watt, and Jenner, with their thousand compeers, would live again; and the vantage-ground of knowledge would no longer be contingent to the few to whom nature had not denied a capacity of learning.

I only intend to say that the points to which reference has been made are characteristic, not that they are the outlines of a perfect system. Perhaps it is impossible accurately to define the elements of a successful practice. When contrasted with its opposite, the difference will always be obvious, yet the distinction is too subtle to be embodied in words. Original principles cannot be defined—we can only name them, and enumerate some of their manifestations. We can never tell precisely in what form the love of

science will display itself; nor is this to be regretted since the result is always the same. Knowledge is a species of property, and the cumulative process substantially the same as that by which money is acquired. Whatever would be rational as a practical rule in other affairs, may easily be transferred for the government of literary pursuits. Does business require to be closely and extensively pursued to render it profitable? The same is true of study, which is only another department of labor, and attended with equal certainty of success. Science is truth elaborated by thinking, whether recorded on the leaves of a book, or retained by the memory alone.

My observations on this subject have been dictated by a belief that ultimate success in self-education depends upon invincible firmness, founded on a conscious capacity for intellectual pursuits. And, abstract as these remarks may seem, it is hoped they will furnish some idea of the inceptive workings of mind anterior to its bursting from obscurity with powers which command the admiration of the world. We have omitted those rules

of study which, although seldom written, are practically enjoyed in all good seminaries ; they are such as the good sense of a person would naturally suggest for his own benefit, or rather, such as literary occupation enforces upon the attention of those engaged in it, and consist essentially in nothing more than discreetly using the faculties we possess. The real advantages of literary institutions are often overlooked by those who are debarred from attending them, and an anxiety to enjoy advantages wholly imaginary, prevents their retrieving, by suitable efforts, the real misfortunes of their condition. In view of this it would be very useful to them to spend some time at such an institution, by which they would become acquainted with scholastic habits, and also learn, that even at school, knowledge cannot be gained without close application to study—the only condition of self-education.

CHAPTER VI.

MECHANICAL FACILITIES.

1. Books.—The nature of many things is lost in their antiquity. What was at first solely an effect, from having been subsequently productive of many effects, is mistaken for an original cause. The literature of the present day is, with a few exceptions, not very ancient. Our books did not produce the sciences of which they treat, but on the contrary, the invention and maturity of the sciences produced the books. Some sciences had been invented and taught orally for many years before any written record of them was made for the public. Such as would excuse themselves from the prosecution of truth for no other reason than the want of a book, must, therefore, be rebuked by all the splendid triumphs of genius for the last three hundred years. Prior to that period, or before

the art of printing was invented, books could scarcely be reckoned among the facilities for acquiring knowledge—they were too dear to be generally available, and too few to afford sufficient variety. Under such circumstances the works of authors were left to accumulate in public libraries or in the hands of the rich, while those distant from these depositories, and especially the poorer classes of people, were necessarily deprived of those advantages which the typographic art has now made almost universal.

A book is but a mere record of what the mind has done, and though very useful as a guide to inquirers, and nearly indispensable as a reference to those already learned, it can be regarded only as a convenience; like other conveniences it is far from being essential. Intellectual fabrics of this kind may sometimes reproduce themselves, but they are more commonly spontaneous productions on which the mind is as little dependent as any other cause is on its effects. Books are a never-failing consequence of intelligence; they have been manufactured by all nations

and by all persons whenever they have found any ideas worth writing. When letters are employed as the shrine of knowledge, books must follow as a matter of course, for it is only by collection and arrangement in some form that letters can be made to answer this purpose; hence, however useful books may be, they are to be considered the effect, and not the cause, of mental improvement.

That books afford great assistance is undeniable, but it must be remembered that they assist us to acquire only what others have known. Our march over the beaten path of science may be greatly accelerated by them, but they cannot guide us in the unknown regions of intellectual discovery. Here the mind is compelled to act for itself, and the independence which thus ultimately proves to be unavoidable might safely have been adopted at the very commencement of its inquiries.

2. *Reading*.—Reading is a facility, noble and almost unbounded; it introduces us to all the recorded wisdom of the past, and, if thinking were not the soul of improvement,

would probably constitute the utmost limit of our inquiries. The natural sources of information, except reflection, are necessarily circumscribed, and it is only by means of a mechanical arrangement of arbitrary characters that this deficiency can be supplied. Even reflection or thought, which knows no bounds and needs no external aid, however vast its achievements, must depend upon letters to give permanence to its acquisitions. But reading is chiefly valuable because it gives a sensible manifestation of things beyond the narrow sphere of personal knowledge, thus as it were making words, pronounced in distant countries and in remote ages, and which naturally could have been heard only by the few then and there present, fall upon our ears with the same force as if we had formed part of the original auditory. An art which can overcome the evils of distance and time, thereby virtually constituting us pupils of the greatest masters and possessors of the aggregated treasures of history, is undoubtedly, as a means of education, next in importance to that act of the mind by

which it elicits truth and fabricates systems for itself. In order to be profitable, reading should be extensive. A student should read not only what is convenient, but whatever comes in his way that is worth reading. No good book should escape him. Mr. Todd, in his *Student's Manual*, has particularly cautioned against devoting too much time to reading; a caution, by the way, as unphilosophical as it is unnecessary. The hackneyed lessons of the text-book are not the whole of what should pass through the mind of a student. If it should be thought advisable to delay this universal research into books till the period of academical studies is past, there are objections against this also, to which there appears no satisfactory answer. Those who were readers before they began these studies will find it hard to resist their habits; while such as were not, and do not become extensive readers during this period—or upon the occurrence of the first opportunity—may be set down with that class who, to use the words of Byron, “ought to have learned to make the paper they waste.” Miscellaneous

reading should not infringe on the regular lessons ; nor will it have any such tendency where there is much self-government. It is in the morning of life that the general intelligence supplied by books is most needed ; when the character is to be formed, when plans for life are to be laid, then, if ever, the mind requires the aid of extensive research. But commonly at this period the attention is confined to elements as a preparation for the future, and it is only after that future has been gained by the individual, that other information is considered necessary or practicable. It may be objected that a whole life would be insufficient to read all the works which have accumulated in the libraries of the learned. So much the better. If they were a thousand-fold more extensive than they are, they would be only the more valuable for whatever they exceeded the powers of any single reader. Those who think all parts of what an author writes of equal importance, who read by rote, and devour with the same avidity, introductions, reflections, corollaries, and so forth ; ought indeed to

stipulate for some limits to what they thus indiscriminately consume. Even the slightest acquaintance with a valuable author has its uses ; and where all that could be desired is not practicable, the little which may be gained ought to be more highly esteemed. Sir Walter Scott, and many other eminent literary characters, owed more to their habits of research among books than to any other circumstance, genius excepted. Their reading, however, was almost immeasurable, and pursued with reference to plans of their own which could not have been perfected by other means.

3. *Writing*.—The mind derives the same advantages from the pen in delineating its thoughts, that the painter derives from his pencil in spreading his conceptions upon canvass. Writing is, in fact, but a species of intellectual painting. By a mechanical process, thought is indicated to the eye with as much facility as sound indicates it to the ear. But the benefit of writing does not consist in merely transferring our ideas to legible characters ; a greater benefit is found

in the aid which it imparts to acts of investigation. Not that the mind knows a thing more perfectly when it is written, than when it is not, but from the difficulty of retaining thoughts in the memory, we rarely think extensively without some more effectual means of preserving our intellectual labors. With those who do not write, truth is apt to exist in the form of principle only—of principle unexpanded and unapplied. The art of writing enables us to draw out and amplify this abstract material to the best advantage, and by furnishing assistance to the thinking faculty, prompts it to greater exertion. To this increased activity of the mind, more than to anything else, we may ascribe the corrective influence which attends the habit of writing. “It is wonderful,” says Dr. Miller, “how far the crudeness and inadequacy of a man’s knowledge on a given subject, may be hidden from his own mind, until he attempts to express what he knows on paper. He then finds himself at a loss at every step, and cannot proceed without much extension, and no less correction, of his former attainments.

Nay, sometimes he finds that he must begin again, from the very foundation, and that he has not really mastered any part of the subject.”* To the same effect is the well-known maxim of Lord Bacon, that “Reading maketh a full man; conference a ready man; and writing an exact man.”† That he relied upon writing for nothing but to assist the memory is evident from that part of the sentence which immediately follows the above quotation: “and, therefore, if a man write little, he had need have a great memory.” The rapidity with which many writers compose shows that their thoughts are already perfect, and that they have only to transfer them as fast as legible characters can be made. Yet this is not the case with all, and, for want of that mental industry which is secured by writing, many unconsciously remain in ignorance and in error. Neither should it be forgotten that literary composition is no infallible preventive of these evils. The labor of writing will not always induce

* Letters on Clerical Manners and Habits, p. 231.

† Essays, 50.

caution and depth in thinking ; consequently much that is written partakes of all the imperfection peculiar to an inactive state of mind.

4. *Apparatus*.—"But certain it is, that unto the deep, fruitful, and operative study of many sciences, especially natural philosophy and physic, books be not the only instrumentals ; wherein also the beneficence of man hath not been altogether wanting ; for we see spheres, globes, astrolabes, maps, and the like have been provided, as appurtenances to astronomy and cosmography, as well as books ; we see likewise that some places instituted for physic have annexed the commodity of gardens for simples of all sorts, and do likewise command the use of dead bodies for anatomies."* It is to the great improvement, which, since the days of Bacon, has been made in this class of facilities, that we are indebted for some of the principal discoveries in natural science. Nature herself is, indeed, a vast laboratory where every element is also

* Advancement of Learning, b. 2.

an instrument, and every instrument is prolific of instruction.

5. *Libraries.*—Books are so cheap that with some little exertion the various elementary works may readily be obtained; but these are by no means to be deemed sufficient, if more extensive collections can be procured. In general, the money which would enable a young man to purchase a library for himself, would, if directed to that object, furnish him with every possible facility for education: such persons have their choice of advantages—they may buy for themselves what others can at best but have access to through generosity or hire. Large collections of books afford opportunities to the student for which he will seek in vain elsewhere, and it is a most gratifying circumstance that these helps are generally available on exceedingly favorable terms. Public libraries are either free, or the same as free to all who will make a proper use of them. But at whatever cost or labor such assistance may be gained, the advantages will repay the expense and the toil a thousand-fold.

CHAPTER VII.

PATRONAGE.

It is often of service to youth to point out the means by which they are destined to rise. By this means the Utopian schemes of childhood, the wild vagaries of imagination, so common and so innocent at that age of life, will be seen in their true light, and remembered only as the inconclusive reasonings of a mind too little informed, to comprehend the conditions of its existence. Before a knowledge of the world has disclosed the laws which control the distribution of property, we naturally think that a noble design cannot fail to find sufficient pecuniary support, nor to meet with that encouragement and countenance obviously needed in every difficult enterprise. But it requires no lengthened experience in the practical operations of greatness to show us that hopes of this nature

are fallacious. Yet, rejecting all secondary assistance—such as, patrimony, gifts, emoluments, influence, and so forth—there is sufficient patronage for every well-constituted mind. He who thinks of patronage—in the ordinary sense of that term, does but dream; yet such is the strong tendency of the youthful mind, to lean upon this most precarious of resources, that it becomes necessary to indicate, not only the value of this fictitious assistance, but those stern realities on which successful enterprise is always hinged.

1. *Want*.—There are advantages in want. However paradoxical such a proposition may seem, time has long since given it the authority of a maxim. It is an old adage, that necessity is the mother of invention. But the important truth of this proverb has seldom had an extensive application. Some occasional success may have been imputed to the urgency of want, yet it has not been acknowledged as the stimulus of greatness. It has provoked no gratitude as a benignant agent of Providence; it has seemed an evil, even where, but for its inspiration, life would

have been a blank. The destitution of most young persons is better calculated to elicit just sentiments than a profusion of positive means. Experience has shown that where there is no want there is no exertion. The feeling of need which presses so heavily upon the young aspirant, is worth more to him than thousands of gold and silver, for it is by the aid of feelings like these that he becomes irresistible in contending for the objects of his ambition. His soul is energized by a consciousness of impending evils, and this energy is of itself equal to any emergency. Fame has her Lent. And from the deep, and never-to-be-forgotten sufferings of his early career the champion of truth derives a cast of mind precisely adapted to the exigences of his future life. Cut off from ordinary helps, it may be, or perchance, having designs wholly extraordinary, and meeting with no corresponding helps, he assumes responsibilities and executes measures on that extended scale which takes a universe into its calculations. This intellectual hardihood never fails to spring forth, sooner or later, where the mind

is left to itself. On the contrary, where facilities abound, a habit of dependence is created, and we insensibly lean upon others for advice and for instruction, until, from disuse merely, our own minds are no longer to be trusted. There is no way of avoiding perpetual minority, or premature dotage, but to dash out of the beaten track, to set up for one's self independently of others. This implies no hostility to others or their views ; it is merely an assumption of that individuality which belongs to man as an accountable being and without which improvement is impossible. Necessity presents us, however, only negative advantages. Indispensable they are, but they are not alone sufficient.

2. *Providence*.—There is a peculiar felicity in the thought that between us and the divine Omnipotence, there is no intervening agency. The association is grand beyond all conception, and cannot fail to exert an ennobling influence on whoever rightly indulges the reflection. All truth belongs to the Creator, and he imparts as much to his creatures as is consistent with their circumstances. And

the inquirer, supported by a relation like this, cannot easily despond. He does not know, but his Helper does ; and hence, if chagrined by disappointment, he enjoys the greatest possible proximity to those desirable arcana which have so universally engaged the solicitude of mankind. It is thus that a sort of appeal is made from all sublunary and momentary adjudication, to the developments of an after life, and the conclusions of infinite Wisdom. This appeal, when properly made and solemnly felt ; that is, when it is the dictate of conscience, as well as of the mind, is one of the most auspicious events that can occur to the intellectual constitution. Rarely has a great genius appeared who had not to make a public recognition of his dependence on Providence ; not as a religious act, but as a sequence of argument, or, more plainly, as the result of his circumstances. Where great attainments are sought, proportionate assistance must be had ; but who or what is adequate to the necessities of him who takes the trackless path of discovery ? He may or may not be caressed after success

has crowned his labors, but it is all one to him. The assistance by which he toiled is not one of those trifling influences that, like the thermometer, falls with every depression of external temperature ; it upholds him with equal dignity in the pursuit, and in the consummation of his object—when the world knows not, and also when it contemns the purpose of his ambition.

3. *Personal effort.*—I come now to that part of my subject more intelligible to the unpractised eye of youth. If we may believe them, few would remain ignorant if any exertion of theirs could avail to the contrary. Not every act, no, nor any number of acts, unless they are of the right kind, will obviate the difficulties in question. But there is a competency in juvenile powers notwithstanding. No permission is to be asked, as no one has either the power or the right to imprison the soul. Liberty, however, is a useless boon if other things are misunderstood. Each has what no other one can get from him. This is all the freedom that should be expected. Every youth should

regard himself the artificer of his own fortune, be that fortune what it may. If he has means of any description, for any length of time, it will be because he could not be deprived of them by the antagonist forces crowding him on every side. Life, it is said, is a perpetual war against tendencies to decay, and the remark is not less applicable to knowledge, and the means of prosperity in general. In this respect all are on a level, no one having more than his individual might can command. Very certainly great inequality exists as to external advantages, if positive aids can alone be relied on, but that we can never trust to them is more than proved by the negligence and supineness which a consciousness of their possession so generally inspires. Numerous instances of failure occur among those who trust to their own exertions, but the number is inconsiderable when compared with a similar class who have had every pecuniary assistance; and the failure is not to be charged to any inherent deficiency of means. When not caused by error in the application of their powers, it..

has resulted from agencies over which it was never intended man should preside. Youth may expect assistance, they may think it very rational and very natural for them to be commiserated, but it is like reasoning in a circle, their expectation returns to them again, and they can never advance beyond their present position. The world is moved by motives that are easily apprehended. But genius when it calls for patronage is obscure and unknown. Let it come to light, let indubitable proofs of its existence be given, and there will be no complaint that it is not respected and sustained. I need not add, however, that at this stage it has a self-supporting power, and can do without the hitherto reluctant applause of the world. It has, in fact, laid the world tributary at its feet, and extorts now what it once solicited in vain. It would be all unjust to say there were no seasonable patrons. Some there are; yet how few the number, and how improbable that it will ever be greater!* Nor

* Improbable, because in a long succession of ages but few have received assistance till after the period when it

is it any cause of regret that efficient patronage can seldom be found, inasmuch as it often brings with it a train of disagreeable consequences ; creating dependence inconsistent with liberty, even if it does not require perpetual inferiority as the price of its favors. Powers that are inadequate to establish themselves are beset with some radical defect that disqualifies them for high pretensions in this rugged world. Why should it not be so, since this is the place in which their qualities are to be tested ? Tears are shed in vain over talents that might have been conspicuous ; the fact that they were not so should allay all uneasiness at their fate. Doubtless some circumstances are more favorable to improvement than others ; but it is the task of genius to rise above every dif-

was most needed, had passed. Mæcenas, the patron of Virgil and Horace, is usually referred to as an instance of liberality to literary men. But these poets had long been celebrated before they enjoyed the favors of Mæcenas. Without his patronage they might have died less wealthy, but not less renowned. Dr. Franklin knew well what sort of patronage genius required when he established a fund to be loaned conditionally to poor young men to aid them in the very commencement of their enterprise.

ficulty—to force even difficulties into its service, and make them its most efficient helps. Often has the pain occasioned by the absence of the usual facilities for science, so wrought upon the mind that the powers of observation have struck out a new path to eminence, and that necessity which seemed the precursor of ruin, has proved the harbinger of fame. As well might the unshorn Samson be bound with withes as the immortal mind tied to ignorance against its own consent.

It may be doubted whether the connection between external advantages and scientific proficiency is well understood. Hitherto in the race of improvement, they that have had many means, and they that have had few, have prospered alike; the pioneer artist or philosopher has even held the pre-eminence, because there being no perceptible difference between him and his successors, it is right that the first should hold the place which is his by seniority. And we are obliged to conclude either that means are like the manna of the wilderness, of which “he that gathered

much, had nothing over, and he that gathered little had no lack ;” or, that the mind of man is endowed with powers which elevate it above dependence upon adventitious circumstances. Of these opinions, though both amount to the same, the latter is of course the only one admissible.

From premises like these, but one conclusion can be drawn. Genius is an alliance with Heaven, and its power over subordinate agencies must be derived from the attraction of its own splendor. Prior to its ascendancy in the estimation of others it must rely upon the intrinsic efficiency of its own powers. This may not seem an inviting view of our subject, but fidelity forbids a lighter shade. It is not our object to amuse by commenting on the respective merits of different modes, but to give the substance of all modes. We aim at certainty, and cannot stoop to that fastidiousness which shrinks from the bold outlines of truth. Let science be acquired as it may, these are the essential principles by which the student must be governed. He

will find in the long run, in the summing up, that besides the oppression of want, he had no patronage but God and his own right hand.

CHAPTER VIII.

PECUNIARY RESOURCES.

THE preceding chapter, I have no doubt, will be thought to indicate plainly enough the general character of these resources. But this necessary self-dependence has its peculiar method of acquisition, and our object now is to note the practical details which that method imposes.

1. *Industry*.—Others may, or may not, be compelled to work, but the candidate for self-education ordinarily has no alternative; he must either labor industriously for the means of support, or abandon his literary hopes forever. Where the desire for knowledge is hopefully strong, there will be no reluctance in conforming to a necessity of this kind. Personal energy is a species of capital always invested with pleasure in approved pursuits. An unwillingness to labor for the means of

education is, of course, an unwillingness to labor for education itself, and bespeaks a mind of that class for the improvement of which no provision has been made in the present allotments of human nature. Examples too numerous to mention may be found of those who have risen to the highest eminence of learning, unaided by any financial resources but their own industry. With some this would be no difficult task, as they can command more lucrative situations than fall to the common lot; still, industry has always been found sufficient for those who have relied on it, whatever might be its comparative returns. Almost any business will afford something more than a mere subsistence, and this surplus may be devoted to the purchase of books or other facilities of science; but even where there is no excess—where all, and more than all, is absorbed by the current wants of physical life—there is still enough, because the mind can think, and everything is within the reach of thought. No occupation can monopolize intellectual capacity, and to the efforts of a determined

mind, manual labor soon ceases to offer much resistance. As an encouragement, it should be observed that the world has to do only with the results of genius; it is of no consequence to us whether the celebrated authors of antiquity were rich or poor—as neither of these conditions could have had any sovereign influence over their productions.

2. *Economy*.—If judicious economy does not increase money, it accomplishes the same thing by increasing the effects of money. It is therefore to be reckoned among the most important pecuniary advantages, and this whether we regard the wealthy or the indigent. A poor person who has any just idea of the value of knowledge can scarcely be the subject of temptations to extravagance; a desire for learning excludes every wish for the frivolous objects on which money controlled by ignorance is usually lavished. Yet there is danger lest the very limited means which the impoverished student can command should seem to render even economy useless. But if the means are small there is only the greater need that they should be rigidly

applied. It is not for us here to give particular directions for such disbursements, but we cannot help remarking that they should always be governed by the principle which influenced Erasmus, when in like circumstances, he said, "As soon as I get money I will buy first Greek books, and then clothes."* This was good economy—it was strictly in accordance with his predominant purpose to obtain an education. The late Dr. Adam Clarke purchased his first Hebrew grammar with a half-guinea which he found in the garden, while a charity student at Kingswood school.† There is nothing peculiar in these examples—nothing but what every individual that has an honest and firm intention to acquire learning will constantly exhibit. With numbers who professedly aim at education there is none of this consistency, because they have none of the inspiration from which it originates. Equal desire will always produce equal effort.

3. *Self-denial*.—This is an inexhaustible

* Pursuit of Knowledge under Difficulties, vol. 1, p. 25.

† Life, vol. 1, p. 88.

mine of wealth ; negative to be sure, but ever available, and not the less efficient for being of the negative order. In the present state of the world human necessities are of two widely different kinds, fancied and real. The former happily are much more numerous than the latter, and comprise the greater portion of those wants for the satisfaction of which money is demanded. Hence, although the real wants of nature have never varied, the actual cost of living has been extremely various at different times. Dr. Johnson estimates that a pension of ten pounds which Henry the Eighth bestowed upon Roger Ascham, was at least equivalent to ten times that sum a century and a half later. The estimate, however, is based partly upon a supposed difference in the nominal value of money. His remarks on that class of wants now under consideration are too important to be omitted. “But the value of money has another variation which we are still less able to ascertain : the rules of custom or the different needs of artificial life, make that revenue little at one time which is great at another.

Men are rich or poor, not only in proportion to what they have, but to what they want. In some ages, not only necessaries are cheaper, but fewer things are necessary. In the age of Ascham, most of the elegances and expenses of our present fashion were unknown; commerce had not yet distributed superfluity through the lower classes of the people, and the character of a student implied frugality, and required no splendor to support it. His pension, therefore, reckoning together the wants which he could supply, and the wants from which he was exempted, may be estimated, in my opinion, at more than a hundred pounds a year.”*

This train of expenses which the artificial habits of society have introduced, is wholly within the power of self-denial, and may be set aside by all those who have sufficient firmness to try the experiment. Here, then, is a financial expedient which annihilates the costliness of education, and is thus, for all practical purposes, equal to a very considerable sum of money. Luxury has been aptly

* Life of Ascham.

styled artificial poverty, because its demands, which are of our own creating, have no other effect than to cause a vast disproportion between the wants and the means of most individuals. These fictitious necessities are as imperative as they are boundless; and the consequence is that they hold multitudes of human beings in the most abject slavery—a slavery only the more to be hated because of its merely imaginative character. Under these circumstances life becomes a scene of restless, abortive toil for gratifications many of which are as low as they are unnecessary. Yet this is not all—not the worst; since to gain means for such unnatural and unlimited indulgence, one starves, another contracts disease, a third becomes a knave, and all are made fools. But those who cannot cheerfully and spiritedly repel this crushing tyranny, need not aim at self-education, for the votaries of science must be disenthralled. There are few who worship at the shrine of fashion that have anything left to offer upon the altar of learning, and the poor are never

of this number; hence for them to seek knowledge is to seek nothing else.

4. *Time*.—Time is equivalent to money, because our time directed to any useful employment, will command money. So that the time spent in study may be reckoned as an investment of money for that object—that is, for knowledge. Every hour and every moment which can be subtracted from other pursuits, should be considered sacred to science. And in order to save time for this object, severe retrenchments should be made from sleep, conversation, and amusement. This is no theorizing, it has actually and often been done, and the time thus spent has been productive of some of the best works in the annals of science. No person who is able to labor or to manage any kind of business, is so confined as to have no leisure moments, and there are few who have not hours in the course of the day and evening that might be employed in reading, or such other studies as they should prefer. If these vacant seasons—these breaks in the ordinary routine of secular occupation, are

seized on with avidity and claimed as the rightful property of a higher interest, they will be found to exert a disengaging influence upon other affairs. He that uses faithfully these little fragments of time will soon have as much time for study as health can admit or improvement require. The improvement of such shreds of time demands a mental, if not a bodily, abstraction from other concerns. And I need not say that retirement is as welcome to the mind of a student as it is favorable to his studies. Let time be saved in this manner, and the poor will find that money, and more than money, is saved, because labor as well as money is the price of knowledge. Let no one complain of a want of money while time, which is worth more than money, is daily thrown away.

5. *Accommodations.*—There are many incidental accommodations attendant upon every enterprise, which are unknown to the inexperienced. People are willing to help those who are determined to help themselves. Not that they have large sums of money to give, or are ready to become patrons in any

proper sense, but they are at least willing to stand out of the way, and occasionally would not object to some slight expense by way of aiding intellect in its conflict with poverty. All such assistances are nothing more than is every day rendered as a mark of respect to activity, without reference to the object about which it is employed. On this principle, the student will sometimes obtain the gift of a book, or the use of a library; and if at school, he may be considered somewhat in the settlement of his bills. Another species of help which I shall set down under this head is the concurrence of circumstances. Not only do the very elements seem to combine to favor the self-sustained youth, but the entire state of things is often found unexpectedly pliable. Difficulties which, in the distance, appear formidable, assume another aspect on a nearer approach. This incidental yielding of things to determined effort—this sort of accommodation which nature and the world bestow upon human energy, has a certain pecuniary value, and is therefore to be

recorded among the resources of such as are destined to high achievement.

Should it be thought these remarks have been of too negative a character, let it be borne in mind that money is never wanted for its own sake. It is only for the effects which it can produce that money is of any value to us; and if these effects can be reached as well by other means, all will admit that such means are of the same value as money. From the nature of the case no great amount of money can come into the hands of the poor student who is directing his efforts mainly to intellectual acquisitions; for he sacrifices the chances of wealth to the desire of knowledge. But if the indirect and incidental advantages which we have specified, are found sufficient for his object, then is there no cause for discouragement to him on whom the burden of such resources is thrown, nor the least necessity for further details on the subject of fiscal accumulation.

CHAPTER IX.

HINDRANCES TO SELF-EDUCATION.

THIS chapter is closely connected with the preceding one ; that is a positive, and this a negative view of the same subject. Many of the obstacles which the solitary student has to meet are not peculiar to his undertaking ; they belong to that class of common difficulties which press upon all enterprises, and which cannot be obviated by any change of method. These might be considered in a general treatise on education, but they need not be discussed here ; neither is it necessary to give prominence to difficulties which the aspirant himself does not feel, and which can, at most, exert only a remote influence upon his destiny.

Several years since the author had the privilege of hearing the late Mr. Solomon Southwick deliver part of a course of lec-

tures on self-education; and though that gentleman was a man of learning and ability, his lectures were wanting in adaptation. They were ably critical dissertations; but not exactly pertinent to the subject. Our opinion then was, and still is, that defective and spurious literature, or the difficulty of making a good selection of books and sciences, is not the main obstacle to self-education. Evils of this class are too refined to be of much consequence. There are more palpable, and more serious hindrances which claim our attention, and to the consideration of these the following chapter is devoted.

1. The want of time is undoubtedly one of the greatest difficulties to be overcome. And yet so little power does this circumstance exert over a resolute mind that it is scarcely able to abridge or even to retard its acquisitions. Men of the most active habits, and whose pursuits seemed to preclude all attention to literature, have always found sufficient time both for writing and study. Some of them have indeed been the most voluminous writers of which we have any knowledge.

The writings of Bonaparte may be given as an instance of what is practicable under such circumstances. It is scarcely conceivable how his active military life allowed the least time for correspondence. Yet he appears to have written more than any of his contemporaries. "The correspondence of the Emperor," says Mr. Alison, "still preserved in the archives of Paris, or in the custody of his generals, if published entire, would amount to many hundred volumes. From the valuable fragments of it published in the appendixes to General Matthieu Dumas, and the works of General Gourgaud and Baron Fain, on the campaigns of 1812, 1813, and 1814, as well as the letters of Napoleon, contained in Napier's account of the Peninsular war, some idea may be formed of the prodigious mental activity of a man, who, amid all the cares of empire, and all the distractions of almost incessant warfare, contrived, during the twenty years that he held the reins of power, to write or dictate probably more than the united works of Lope De Vega, Voltaire and Sir Walter Scott. His

secret and confidential correspondence with the directory published at Paris in 1819, from 1796 to 1798 only, a work of great interest and variety, amounts to seven large closely-printed volumes; and his letters to his generals, during that time, must have been twice as voluminous.”*

This is not a solitary instance even in modern times, for the works of General Washington amount to about seventy large manuscript volumes; and the King of Prussia, Frederick the Great, was an extensive writer, and withal a poet of no inferior pretensions. Of the ancients we need only mention Cæsar, and Polybius, and Xenophon, all of whom were eminent generals and equally eminent writers. These authors wrote as well as those who were less active, and as well as they would, had themselves been less active; or, in other words, the limited time which they could command was no detriment to their labors.

The self-educated have not unfrequently progressed as rapidly in their studies as those

* History of Europe, chap. 30, *note*.

who have had every facility that the schools can bestow ; and they have prosecuted them, not only as far as such institutions could render assistance, but frequently much farther. Nor is this remarkable, for learning results from thought, and the mind is not dependent upon any arrangement of external circumstances for its capacity to think. The hands may be employed, but the intellect is free ; scholastic facilities may be wanting, but the mind can create them for itself. It is evident, therefore, that the most embarrassing avocations offer no effectual resistance to literary enterprise ; that neither the dangers and dissipation of the camp, nor the fatigues and cares of manual labor, are incompatible with an allowance of time sufficient for the highest degree of intellectual culture.

2. Next to the difficulties arising from a want of time are those which arise from a want of money. Ever-crowding necessity is the malevolent genius of men who are obliged to educate themselves. Poverty excludes them from the ordinary means of cultivation,

and if they ever rise it must be without such facilities as pecuniary ability can procure. He who has money can command his time, and whatever assistance he pleases ; but the poor must aim at self-education because he is poor. It is of no use to specify a thousand good works to a man who is not able to buy one ; nor need we tell him who is the best author on a given subject when he can never avail himself of means to make a purchase. Neither will it benefit him to know what sciences are most useful or what methods of study are most approved, unless they are shown to be within the reach of his financial resources. But there is one subject on which he needs instruction. He wants to know how to get money ; or, what is exactly equivalent, how to dispense with the use of money, and yet accomplish his object. This secret, which by the way cannot long be unknown to a determined mind, banishes all the seeming impossibilities that at first surround the enterprise, and give to pecuniary advantages the very subordinate character to which alone they are entitled. In reading the lives of

eminent men who in early life encountered poverty, we wish to know the secret by which they overcame:—not what the force of the tide of their success was equal to, but what gave impetus to that tide. And if this be overlooked, nine tenths of the value of biography is lost. We may therefore well inquire how the self-educated accomplished their task. Was it by borrowing books or money? or by the gratuity of some friend? or were the obstacles to human enterprise for once removed—in short, did they find a royal road to knowledge? No, by no means. They looked necessity in the face and bid defiance. They threw themselves upon the unearthly resources of genius—upon the majesty of the human mind, and, destitute of facilities for learning, as David was of weapons of war when he engaged Goliath, they achieved a triumph over every difficulty. The whole secret seems to lie in making small assistance efficient for high ends—in reducing the adventitious aids of the intellectual powers, not only without prejudice to the final result, but with positive advantage. This is indeed not

so much to dispense with help, as to find it where it is seldom sought; not so much to do with less assistance, as to obtain more from more congenial sources. Great occasions make great men; and great pursuits lead to commensurate attainments. The history of individual greatness proves that men distinguished for great and noble deeds have generally laid their plans, and adopted their governing purpose, at the very commencement of their course of education. A case in point is that of Pollok, whose fame will be more lasting

Than Scotia's northern battlement of hills."

His biographer says that he was fourteen years in preparing the *Course of Time*, and as he died at twenty-eight, he must have formed the design and entered upon the execution of that work at the age of fourteen. Dr. Adam Clarke was forty years in preparing his commentary, and as he finished it at sixty-three, he must have commenced at twenty-three—long before he attained any distinction as a scholar, and shortly after his

rejection by the sagacious master of Kingswood school. Lord Bacon furnishes another instance still more remarkable. At the early age of thirteen he was entered at Cambridge, but "after two years' residence he quitted the university with the conviction not only that these seminaries of learning were stagnant, but that they were opposed to the advancement of knowledge."* Thus between the thirteenth and fifteenth years of his age he discovered the futility of the then existing systems of science and planned his own immortal work—the *Novum Organum*—upon which he labored during the greater part of his life, and ultimately published when he was Chancellor.

Where the aim is sufficiently high, the practical effort which must follow always draws after it suitable qualifications. The occasion imparts the means; the work itself supplies the requisite ability. Hence it is not by the acquisition of money in some unusual manner that poverty is to be overcome. Eminence is prior to patronage.

* Montagu's *Life of Bacon*, chap. 1.

Wealth and conveniences are not requisite to eminence ; they are but effects which occasionally follow when the productions of genius have assumed a marketable value. The great whom we admire, first became great and subsequently rich ; they first became learned, and afterwards acquired what are commonly considered the means of learning.

3. It would not be easy to estimate too highly the importance of literature, but nothing can be more injurious than the supposition that science is only to be attained by a profound acquaintance with language. The art of writing is no more essential to knowledge than the art of painting, or than any mechanic art whatever. And to suppose that a deficiency of this kind must operate as a barrier to improvement, is to imagine a difficulty where none exists. For the conveyance and retention of knowledge, language is indispensable, but not for its acquirement. Letters and sounds are not an attribute of truth, they are only an arrangement by which the commerce of truth is facilitated. Men no way remarkable for literature have possessed

more real science than the age in which they lived. This was apparent in Martin Luther whose single mind embraced more knowledge of divinity than the world besides ; in Galileo who was obliged to abjure his astronomical tenets to escape the Inquisition ; and in Copernicus whose cosmogony, through fear, was given to the world only with his expiring breath. Literature is an emanation of science ; it is essentially an effect rather than a cause of knowledge. We would be far from saying these things to those who are obliged to educate themselves, in order to lessen their esteem for literary acquisitions. Such as are competent to judge, cannot fail to appreciate advantages of this kind ; but our object is to remind those who cannot obtain them, that it is in their power to supersede their necessity, by taking at once higher ground. Their passage into the temple of science may indeed be forced ; but better so than not at all. Let them lay hold upon knowledge ; literature must follow, if it cannot precede.

4. An impression that learning can only be successfully prosecuted by the aid of

teachers, has contributed to discourage the enterprise of self-education. That teachers are useful is not to be disputed ; that they are necessary can never be shown. Although we admit the utility of such assistance, yet it must not be regarded as a principal advantage even of the schools. There are four advantages arising from school : 1. The student is separated from other employments. 2. He is made to apply himself. 3. He is confined to elementary studies. 4. The aid of a living teacher is occasionally supplied. The last is of course the least essential. But even allowing that a teacher is necessary, the case is not materially altered ; for the solitary student finds a teacher in his text-book, or assumes the office himself. Where books are not available to guide him, he becomes his own guide ; and surely the office of direction could not, in merely human hands, be more judiciously invested. Alexander and Bonaparte, knew quite as much of war as any who could have been found to instruct them. What military school, or what veteran officer had equal knowledge ? The same is true of

Aristotle and Bacon. They had no teachers because none could teach them ; or, rather, they taught themselves because others were ignorant of what they wished to know. Such minds are at least as competent to guide themselves as others can be to guide them ; and if teachers are not necessary—not possible—in the high sphere in which they moved, let no one consider them indispensable to subordinate pursuits.

5. By many, a certain amount of conveniences is looked upon as a necessary condition of scholarship. Not to have the usual number of books, teachers, instruments, and so forth, is deemed a misfortune to which resistance is useless. This imaginary evil so paralyzes their strength that with the warmest desires for learning, they are not able to make a single vigorous effort. For the encouragement of such, let it be observed that mechanical facilities add nothing to genius. Men wrote as well before libraries and schools were established, as they have done since ; we have not exceeded the ancients, although their literary advantages, according to the

popular estimation, were immeasurably less than ours. The mind is not dependent for its acquisitions upon complicated and costly agencies ; it arrives at the greatest improvements by the most simple means. Dr. Franklin, one of the most successful experimental philosophers, may be taken as an example. " His discoveries were made with hardly any apparatus at all ; and if, at any time, he had been led to employ instruments of a somewhat less ordinary description, he never seemed satisfied until he had, as it were, afterward translated the process, by resolving the problem with such simple machinery that you might say he had done it wholly unaided by apparatus. The experiments by which the identity of lightning and electricity was demonstrated, were made with a sheet of brown paper, a bit of twine, a silk thread, and an iron key."* This simplicity of means implies no defect in the execution ; the experiments of Franklin were as perfect as any that ever were made, notwithstanding the paucity and meanness of his instruments.

* Lord Brougham: Statesmen in the time of George III.

The advance of science under such circumstances reminds us of the astonishing skill of Asiatic manufacturers. The finest fabrics of the East are woven in rude huts and with hand-loom of the coarsest construction. Silks, so fine and delicate as to have no equal in European manufactures, are wrought with this imperfect machinery,—if that may be called machinery, which exhibits so little of art, or if that may be considered imperfect which, in its effects, has never been equalled.* Facts like these evince a capacity that circumstances have no power to control, and the youth who hesitates to engage in literary and scientific pursuits merely because certain incidental helps are not at his command is as justly chargeable with his subsequent ignorance and degradation, as if he had been surrounded by every possible advantage.

* “Notwithstanding the apparent simplicity of their looms, they will imitate exactly the newest and most delicate pattern from England or France. The Chinese particularly excel in the production of damask and flowered satins. Their crape has never yet been perfectly imitated: and they make a species of *washing* silk, called at Canton *ponge*, which becomes more soft as it is longer used.” The Chinese, &c. By John Francis Davis, Esq., F. R. S., vol. 2, p. 237.

Education demands nothing but mind, and such an application as is practicable to all classes of society.

6. Genius is often totally misunderstood, and the consequence is that a certain peculiarity of mind,—necessary only to eminence of a particular kind,—comes to be regarded as essential to all intellectual efforts. If, as we have shown in another place, all minds have sufficient strength to learn the highest truths, then the absence of what is called genius can be counterbalanced by industry. The want of greater aptitude may retard improvement, but cannot render it uncertain. Moreover the mind derives its ability, in part at least, from causes within its own control. Objects of a high character,—pursuits lying beyond the common range of enterprise,—always imbue the individual with their own greatness. And those who may think that nature has denied them the requisite qualifications for learning, have only to attempt the work, to be convinced that the defect is in the lowness of their own ambition, and not in the constitution of their faculties.

7. Needless fears are entertained of the difficulty of the work; the formality and stateliness of scholastic lessons lead many to suppose that learning at school, and learning elsewhere, are things very different. They have no idea that what they already know bears any resemblance to the knowledge peculiar to such institutions. "A mother tells her infant," says Dr. Johnson, "that two and two make four, the child remembers the proposition, and is able to count four for all the purposes of life, till the course of his *education* brings him among philosophers, who fright him from his former knowledge by telling him that four is a certain aggregate of units." Most of the knowledge reserved for maturer years will be found equally practical, if not precisely identical with the lessons of the nursery. Youth have only to employ the same faculties that have enabled them to learn what they now know, in order to learn all that remains to be known. There is much less mystery and difficulty in science than superficial observers are inclined to believe, or than interested empirics are

willing to confess. "The very depth of human knowledge, and the very height and perfection of art, are, in truth, nothing more than the revealing and applying of a few of the laws and principles of nature; and though we often flatter ourselves that there is something profound in what we know, and mighty in what we do, it is still in nature; and what we call inventions, even clever ones, are only the applications of discoveries; and of discoveries which lie as much in the way of one man as another, if both are equally diligent in search of them."* Every truth in science and every attainment in literature is as much within the reach of common minds as anything that they have previously learned. Facts are level to all who will take pains to observe the evidence on which they rest, and literary acquisitions are not less available to all than other practical attainments.

8. All have admitted the inestimable value of true science to its possessor, and it is only in moments of peculiar stupidity that we ever

* Mudie: Pop. Guide, p. 64.

indulge the thought of remaining ignorant. But it is one thing to know that education is important, and another to know in what it consists. Things seen at a distance often affect us more than those near at hand ; we are too much ashamed of illiteracy to perceive its true character, and our ignorance appears so horrid that we flee from it as from a spectre. Let this false delicacy give place to a more philosophic feeling, assured not only that every deserving trait will flourish the better for intelligent observation, but that the inquisitions of science are always and essentially beneficent. Among the terms which we use, none has been more frequently perverted than learning, or education. Some men who have felt at least all their consequence in the republic of letters, call those unlearned who make no pretensions to Latin and Greek, and who have never studied at a classical institution. Now, we might as well assert that no man is a mechanic who has not served an apprenticeship at watch-making, or who did not learn his trade in London. Greek and Latin contain but few of

the wonders of the universe, and colleges and high schools are but a small part of the world. The great value of these ancient languages may safely be admitted, without in any degree justifying their exclusive claims. Education implies nothing but knowledge gained by mental exercise, and an intelligent mind will very readily perceive that the kind of study, can only vary the value without changing the nature of the acquisition. None need, therefore, refrain from study on the supposition that education results from certain branches of knowledge, or from particular places of instruction, and from them only; it is an acquirement common to every place and to every truth. A man cannot be a linguist unless he has studied language to some extent, and so of every other branch of knowledge. But it does not follow that one is not a proficient in any science because he has not an acquaintance with some that are understood by others. The same man is rarely eminent in more than one science, and there is not the strict necessity for a partial knowledge of others which some have sup-

posed. The names of Brindley and Ferguson are proofs to what extent engineering and astronomy may be carried without a knowledge of mathematics; and we might select similar examples from other pursuits, all tending to show that the mind as well as the body can dispense with ordinary facilities if it choose. Hence the absurdity of restricting the word learning to one or a few departments of knowledge, while the universe is full of wonders neither less instructive nor less easy of access.

9. The extent of education has been as little known as its nature. And a conviction of its unmanageable greatness has been a fruitful source of discouragement to the inexperienced. The term education does not present a subject with any naturally defined proportions, its import being fixed by conventional usage. What we now call by that ennobling name was once either unknown or disregarded. War and devotion supplied the themes for the poet and the sage, while memory lent her aid in transmitting their productions to future generations. The natural

sciences were not then unfolded; there were no classical authors and no dead languages; each spoke as his spirit moved him. Yet in those unfriendly days there were learned men as well as now—men whose superiors never lived. This proves only that learning is not confined to one set of ideas; to one nor yet to many languages; nor to the modes of instruction which are most approved. Before the revival of letters in England, he who could merely read was such a prodigy that civil immunities were conferred upon him; hence that strange statue, “the Benefit of Clergy,” which is no other than a release from punishment after conviction, in consideration of literary merit. But now it is attempted to withhold the very name of scholar from all who have not—besides other important acquisitions—conned the obsolete dialects of Greece and Rome. Thus it appears that in one age those limited acquirements to be had at a common school are deemed wonderful, while in another age, one must travel through the whole encyclopedia, and master all the forgotten languages of the

earth, to be considered a scholar. Extremes destroy each other. The capricious use of a word shows that it either has no settled meaning, or is unjustly applied. According to present usage, the ancients must all be set down as unlearned, for they were ignorant of much that is embraced in a modern education, and those of the present day who arrogate to themselves this distinction—who claim to be exclusively the educated—will probably have to yield it in favor of a subsequent generation. Some fortunate revolution in science may give posterity to look down from an eminence upon the present imperfect state of knowledge. Then the literati of our day—if their memories and works shall find their way thus far into the distant and uncertain future—will be as eligible to the distinguishing epithets, illiterate and uneducated, as Shakspeare and Bunyan now are. Such absurdities sufficiently attest the indefinite views which have prevailed in reference to education. The subject itself not being settled, the terms used to designate it are necessarily vague.

10. Another hindrance exists in the too prevalent opinion that nothing but strictly literary and scientific pursuits have any tendency to inform the understanding. A vast amount of real science lies concealed in all the active employments of life. Men who have been sufficiently active and observing, although ignorant of books and letters, have not unfrequently, in spite of this disadvantage, attained to the highest eminence of knowledge. "Charlemagne was as illustrious in the cabinet as in the field; and, though he could not write his own name, was the patron of men of letters, the restorer of learning, and a wise legislator."* But the most ordinary avocations are not divested of this instructive influence; even suffering, as well as toil, has the same effect. This view of the subject is very happily expressed by Dr. Channing: "I have faith in labor, and I see the goodness of God in placing us in a world where labor alone can keep us alive. I would not change, if I could, our subjection to physical laws, our exposure to hunger and

* Universal Biographical Dictionary.

cold, and the necessity of constant conflict with the world. I would not, if I could, so temper the elements, that they should infuse into us only grateful sensations, that they should make vegetation so exuberant as to anticipate every want; and the minerals so ductile as to offer no resistance to our strength and skill. Such a world would make a contemptible race. Man owes his growth, his energy, chiefly to the striving of the will, that conflict with difficulty which we call effect. Easy, pleasant work does not give men a consciousness of their powers, does not train them to endurance, to perseverance, to steady force of will; that force without which all other acquisitions avail nothing. Manual labor is a school in which men are placed to get energy of purpose and character, a vastly more important endowment than all the learning of all the schools. They are placed, indeed, under hard masters, physical sufferings, and wants, the power of fearful elements, and the vicissitudes of all human things; but these stern teachers do a work which no compassionate, indulgent

friend could do for us, and true wisdom will bless Providence for their sharp ministry. I have great faith in hard work. The material world does much for the mind by its beauty and order; but it does much more for our minds by the pains it inflicts, by its obstinate resistance which nothing but patient toil can overcome; by its vast forces which nothing but unremitted skill and effort can turn to our use; by its perils which demand continual vigilance, and by its tendencies to decay. I believe that difficulties are more important to the human mind than what we call assistances. Work we all must, if we mean to bring out and perfect human nature."

11. But still more erroneously, manual labor is often thought to be incompatible with literary pursuits. Yet, so far is this from being the case, that it is highly probable such labor—independent of the knowledge which it supplies—is a help, rather than a hindrance, to literary acquirements. It is almost the only condition on which we can have "a sound mind in a sound body;" and

though it leaves less time for scientific studies than is usually deemed necessary for their successful prosecution, facts compel us to acknowledge that it leaves enough. Some have supposed that labor blunts the faculties and deprives the mind of much of its acuteness. There is no evidence, however, that such an effect is ever produced; but there is much evidence to the contrary. Active habits induced by physical toil are as properly habits of the mind, as those which arise from speculation; and these habits once formed, are easily applicable to purely intellectual employments. It is not because other pursuits are injurious to literature that most who are devoted to them fail of education; the reason is, that such pursuits become exclusive—they are suffered to engross all the time and all the effort to the total neglect of literary studies. People are under no necessity of yielding to business in this manner; and it can only be through ignorance of all just rules of management, or a predominant desire of wealth, to which everything else is sacrificed, that they thus allow

themselves to be absorbed in such affairs. Labor neither unfits us for study, nor monopolizes the means that should facilitate it. And the laboring man may congratulate himself upon the possession of some advantages which never, in so high a degree, fall to the lot of others. His abundant exercise, his general and rational muscular exertion, enables the mind to reach its utmost capacity, and gives it the power of prolonged endurance at this extreme point of effort. We therefore conclude that a life of labor precludes no one, unless through his own unconstrained choice, from the highest attainments in literature and science.

12. Some have failed solely from a want of perseverance. This may have been occasioned, it is true, by the ill success of an injudicious method, but it more commonly proceeds from fickleness of character. An object may be pursued forever by wrong means without being obtained; yet there are few who so absolutely mistake their way. The most prefer to abandon the enterprise after prosecuting it awhile; they are impa-

tient and cannot wait to finish what they have begun; progress is too slow and the possibility of final success too uncertain to stimulate exertion. How utterly at variance with all practical philosophy such a vacillating course must be, is obvious to the most superficial observer. Not only self-education, but everything else, is equally beyond the sphere of these inconstant efforts. Knowledge can be had only as other things are had—that is, by unremitted and self-sacrificing endeavors. On the general subject now under consideration, I shall do the reader a favor by introducing the following remarks from a writer to whom I have before referred. “Many, when circumstances have turned their attention to self-improvement, and while the glowing picture is before them, often make excellent and sometimes prodigious resolutions. But because they do not at once, as by a leap, become perfect, they are soon ready to give up the effort in despair. For such, for all, it were well to remember, that self-education is a matter of slow progress, of patient and persevering effort, and that in little

things, from day to day and from hour to hour. It is the fixed law of the universe, that little things are ever the elements—the parts of the great. The grass does not spring up full grown. It rises by an increase so noiseless and gentle, as not to disturb an angel's ear, and not to be seen by an angel's eye. The rain does not fall in masses, but in drops, or even in the breath-like moisture of the fine mist, as if the world were one vast condenser, and God had breathed upon it. The planets do not leap from end to end of their orbits; but in their ever onward progress, inch by inch, and line by line it is that they circle the heavens. And so with self-improvement. It is not a thing of fits and impulses, and explosions, but of constant watchfulness, and patient and unwearied effort, and of gradual and ceaseless advancement. Like the wealth of the miser, it must be heaped up piece by piece; and then, at length, like the wealth of the miser it may also be without limit. Like the coral reefs of the ocean it must grow by small but constant additions; and then it will finally be

like those reefs, admirable in all its parts, and rivalling the very mountains in size.”*

Perseverance is necessary to respect. And if efforts at self-education prove unsuccessful, it is because they are contemptible. Weak and hesitating, precarious and inconstant, without judgment and without determination, to what but reproach are they entitled? Such persons, however, can hardly be said to fail in their attempts, as the failure lies rather in their not attempting the work at all. Their works are only a burlesque upon industry.

13. The absence of voluntary engagements is an obstacle to the success of this enterprise. One of the principal advantages of a school is the obligation which it imposes upon the learner to acquire a certain amount of knowledge in a given time. This obligation the student assumes when he enters such an institution, and so long as he subjects himself to an arrangement of this kind, there is no chance for negligence; others have the supervision of him, and are paid for guard-

* Rev. Tryon Edwards: Biblical Repository, Jan., 1841.

ing him against irregularity. But self-education denies us this precaution. It places the student under no special oversight, it exacts of him the performance of no particular task. It leaves him to engage in literature as he is afterward to engage in other enterprises—guided by his own judgment, and determined by his own will. Yet it must not be forgotten that in exempting us from the authority and direction of others, it does by no means exempt us from the authority and direction of ourselves. The self-educated man is entrusted by Providence with the control of himself, and if his conduct is not characterized by just and enlightened discipline, it proves him either incompetent or reckless. He may have as good direction as others; rules and regulations are not impossible to him, but they must emanate from himself. It is desirable, therefore, that youth should early become acquainted with this peculiarity, that they may assume, if necessary, a responsibility, which society has made no arrangements to transfer to others. Even a child, if it knows that it is left unprovided

for, will see the necessity of making some choice ; and almost any choice would be preferable to allowing its juvenile years to pass away without an intelligent purpose. Self-education, although destitute of those compulsory measures furnished by the schools, is only on a level with all the undertakings of adult life. And persons who have passed the period of minority have no more need of such coercive aids to insure attention to literature or science, than they have to insure attention to commerce or agriculture. Occasionally they may find the pressure of voluntary engagements of service in quickening the mind to renewed exertion ; but its ordinary and principal support must consist of a spirit of literary enterprise—a love of study that chooses to work even where there is no compulsion, and in spite of every difficulty. This incidental assistance is thus alluded to in a passage of Sir Walter Scott's diary, "Feb. 15, (1826.) Yesterday I did not write a line of Woodstock. Partly, I was a little out of spirits, though that would not have hindered. Partly, I wanted to wait for some

new ideas—a sort of collecting of straw to make bricks of. Partly, I was a little too far beyond the press. I cannot pull well in long traces, when the draught is too far behind me. I love to have the press thumping, clattering, and banging in my rear; it creates the necessity which always makes me work best.”* However grateful to Sir Walter’s ambition, such a constraint may have been, no one can suppose that it produced his devotion to literature. Other motives would have kept his pen employed had this been wanting; but he was too much engaged in his work not to be thankful for every circumstance which seemed to enforce its accomplishment. In the instance now given, the obligation was merely a consequence of previous activity—a veteran writer had created demands upon his genius which he could not conveniently disregard. And as this is the natural order in which such obligations arise to all but minors, the self-taught student will find them evolving in sufficient abundance from his own energies. Study draws after it

* Lockhart’s Life of Scott, vol. 6, p. 176.

obligations to study, and he that learns most is most committed to learning.

14. An erroneous impression prevails in reference to the art of writing. It is thought that writing must be a very difficult and complicated process, and therefore not attainable without the aid of scholastic facilities. Many who would cheerfully attempt it upon the supposition that it was not more difficult than other mechanic arts, are now deterred by a dread of its impossibility. People who suffer such views to influence them, must be ignorant of the history of literature. The most renowned writers have rarely done more than simply trace upon paper the imagery of their own minds. In doing this they followed no rule, no art, no system. They merely took such words as they were accustomed to speak, and such as most exactly expressed their thoughts, and placed them upon paper just as their thoughts occurred. Their writing was only an indication of certain conceptions of the mind; and whatever difficulty may have attached to the process, it arose not from a want of skill in adapting

words to ideas, but in adapting ideas to things. It was in thinking, not in the transference of thought to legible signs, that the greatness of their minds became evident. Our thoughts invest themselves in words, and in right words, spontaneously when the mind is properly inspired. If style is defective, it is because the thought is defective; for words are nothing, and can mean nothing, but as thought gives them existence and gives them meaning. But notwithstanding thought is the soul and substance of writing, eminent authors frequently write without premeditation, and some of their happiest productions have originated in this manner. Another extract from the diary of the author last quoted will furnish us an illustration here.

“February 12, (1826.) Having ended the second volume of Woodstock last night, I have to begin the third this morning. Now I have not the slightest idea how the story is to be wound up to a catastrophe. I am just in the same case as I used to be when I lost myself in former days in some country to which I was a stranger. I always pushed for

the pleasantest route, and either found or made it the nearest. It is the same in writing. I never could lay down a plan—or, having laid it down, I never could adhere to it; the action of composition always extended some passages, and abridged or omitted others; and persons were rendered important or insignificant, not according to their agency in the original conception of the piece, but according to the success, or otherwise, with which I was able to bring them out. I only tried to make that which I was actually writing diverting and interesting, leaving the rest to fate. I have been often amused with the critics distinguishing some passages as particularly labored, when the pen passed over the whole as fast as it could move, and the eye never again saw them except in proof.”* Nor is this method of writing confined to works of imagination. The numbers of the Rambler—a work which for elegance of diction and profoundness of thought, is not surpassed by anything in the English language—were composed in the same manner. “Pos-

* Lockhart's Life of Scott, vol. 6, p. 172.

terity," says Mr. Boswell, "will be astonished, when they are told, upon the authority of Johnson himself, that many of these discourses, which we should suppose had been labored with all the slow attention of literary leisure, were written in haste as the moment pressed, without even being read over by him before they were printed."* "He told us," continues the author, "almost all his *Ramblers* were written just as they were wanted for the press; that he sent a certain portion of the copy of an essay, and wrote the remainder, while the former part of it was printing. When it was wanted, and he had fairly sat down to it, he was sure it would be done."† *Rasselas*, another of Johnson's most finished works, was written with equal rapidity. "He told Sir Joshua Reynolds, that he composed it in the evenings of one week, sent it to the press as it was written, and had never since read it over."‡ Its critical merits as a literary work are thus characterized by Sir John Hawkins, "*Rasselas* is a specimen of our language

* Boswell's *Life of Johnson*, vol. 1, p. 139.

† *Ibid*, vol. 3.

‡ *Ibid*, vol. 1, p. 246.

scarcely to be paralleled; it is written in a style refined to a degree of immaculate purity.”*

Examples of this kind prove that the mind can perform its highest tasks with very little of what is commonly thought to be a necessary preparation. Grammar, Rhetoric, and Logic are all evolved in every correct thought. They are all inherent in truth, are attributes of it, and breathed forth with the utterance of every just conception. Intense and correct thinking, therefore, carries with it the essentials of good writing, and the only real hindrance to authorship is the want of such ideas as deserve to be recorded.

15. The idea that a great amount of knowledge is a necessary prerequisite to scientific pursuits, or to the efficient exercise of the mind, retards improvement by impairing the confidence which every man should have in his own powers of observation. It is only on subjects to which knowledge relates that it affords us any assistance; the study of mathe-

* Quoted by Arthur Murphy in his *Life of Johnson*, p. 206.

matics enables us to judge better of mathematical truths, but not of other truths. On subjects of which all are equally ignorant, all are equally competent judges. But every mind is endowed with a capacity of thinking, and the elements of truth are constantly present to every mind ; so that nothing but application is necessary to place all on a level in actual attainments. “The rudest peasant may be said to have in his mind, all, or nearly all, those primary notions, of which the sublimest demonstrations of the relations of number and quantity are the mere development. He would be astonished, indeed, if he could be made to understand, that on notions, which appear to him of so very trifling import, have been founded some of the proudest monuments of the intellectual achievements of man, and that, among the names, to which his country and the world look with highest veneration, are the names of those whose life has been occupied in little more than in tracing all the forms of which those few *conceptions*, which exist in *his* mind as much as

in theirs, are susceptible.”* To trace out these various relations, is the appropriate business of the mind. For this purpose, the fundamental idea was given by nature, and all who are thus favored with the first original conception have the whole immensity of truth at their command. As he who takes one step has only to repeat the effort, in the right direction, to accomplish the longest journey, so he who learns one truth, has only to repeat the intellectual effort to acquire every possible science. The work is that of discovering single, not aggregated truths ; and the difficulties which embarrass us when science is viewed as a whole, vanish altogether when it is surveyed by items. Reason is a power that operates upon the facts which are before it, and which requires no previous stock of knowledge to make its operations perfect. It is an endowment that performs its functions with only the knowledge derived from its own experience, and even where this knowledge is wanting it is still competent to act. Language, so often regarded as essential to

* Brown : Philos., vol. 1, p. 490. Lect. 48.

its exercise, is a very contingent advantage—a mere incident to ratiocination,—as may be seen in the success which always attends the first use of this faculty. “The infant, long before he can be supposed to have acquired any knowledge of terms, forms his little reasonings on the subjects, on which it is important for him to reason, as accurately probably as afterwards; but, at least, with all the accuracy which is necessary for preserving his existence, and gratifying his few feeble desires. He has, indeed, even then, gone through processes, which are admitted to involve the finest reasoning, by those very philosophers who deny him to be capable of reasoning at all. He has already calculated distances, long before he knew the use of a single word expressive of distance, and accommodated his induction to those general laws of matter, of which he knows nothing but the simple facts, and his expectation, that what has afforded him either pain or pleasure, will continue to afford pain or pleasure. What language does the infant require to prevent him from putting his finger twice

in the flame of that candle which has burned him once? or to persuade him to stretch his hand in exact conformity with the laws of optics, to that very point at which some bright trinket is glittering on his delighted eyes? To suppose that we cannot reason without language, seems to me, indeed, almost to involve the same inconsistency, as to say, that man is incapable of moving his limbs, till he have previously walked a mile.”* There can be no good reason, then, why the most illiterate and unlearned person should not commence a course of observation with the hope of distinguished usefulness. Such an individual has all the faculties and all the knowledge necessary to the discovery of truth. As for those mechanical facilities which the learned possess, and which in certain departments of science give them such decided superiority, they are mere emanations of mind—mere effects flowing from causes already under the control of the most ignorant.

16. Besides the imaginary difficulties now mentioned, there is another which arises from

* Brown: Philos., vol. 1, p. 482.

the mistaken notion that improvement is no longer possible ; that the career of invention and discovery is closed, and that nothing new remains to the ambition of the student.

The effect of such a sentiment on the general progress of science, Bacon has repeatedly noticed. "By far the greatest obstacle to the advancement of the sciences and the undertaking of any new attempt or department is to be found in men's despair and the idea of impossibility. For men of a prudent and exact turn of thought are altogether diffident in matters of this nature, considering the obscurity of nature, and the shortness of life, the deception of the senses, and weakness of the judgment. They think, therefore, that in the revolution of ages and of the world, there are certain floods and ebbs of the sciences, and that they grow and flourish at one time, and wither and fall at another ; that when they have attained a certain degree and condition, they can proceed no further."* Self-education is, from the first, an enterprise of discovery. Its hopes and in-

* Nov. Org., b. 1, aph. 92.

citements must therefore be such as influence those who, having attained the utmost goal of established science, are about to advance to something beyond. There must be a full conviction that all has not been done which can be done. For if the solitary student is to be confined to stereotyped lessons under an impression that others have so much the advantage of him as to exclude competition on the field of discovery; or, in other words, if he imagines nothing valuable can be effected by such means as are at his command, we may rest assured that his efforts will be abortive. It is not under such auspices that the human mind distinguishes itself. Ideas of inferiority, and of inferior advantage, require to be forgotten in the ardor of pursuit. The discoveries which have hitherto been made, show that the power to unlock the mysteries of nature and to benefit the world, is not exclusively confided to scholars of any particular grade or class. All ranks of society and all degrees of cultivation have participated in these achievements. And there is still a chance for all, and an equal chance.

No student should deem his opportunities unfavorable, or his sphere too contracted to allow of eminence. However narrow the field of his observation, it brings him into living contact with exhaustless wonders—it gives him a panoramic view of the world, and opens to him all the sources of knowledge.

17. Self-education is often neglected from the supposition that when most successful it falls considerably below what can be obtained at literary institutions. The idea that such attainments are never quite so perfect as those of the schools, diminishes their value in the estimation of the student, and leaves him without the necessary motives to proficiency. People do not willingly consent to what is even remotely degrading. Until right views of self-education prevail, it will continue to be pursued with languor. While it is looked upon as the least of two evils—as only preferable to ignorance, and not at all equal to the education of the schools—it is folly to expect anything like a thorough application. We require to be persuaded of

its value before making sacrifices to obtain it. But the idea is a fallacy. No such imperfection exists; and therefore, none should be suffered to influence the mind. The very sciences which our schools disseminate are the effect of self-education. We have shown that no science has been, or can be, invented by the aid of teachers. The highest efforts of the mind are exclusively under its own direction. Hence so far is this method from being imperfect, that it is the only one by which real and original greatness can be attained.

18. Through a disrelish for the objects of human enterprise, or from the too great influence of other and unfavorable pursuits, the very desire of learning is frequently intermitted. In this state of mind, mental indolence becomes habitual, and ambition, which prompts to eminence, decays as the love of quiet increases, until at last all taste for study is lost, and knowledge itself seems to be valueless. Such have no purpose, no wish to learn; but this is not the worst. Their irresolution and indifference are too

apt to ripen into deliberate, unmingled hatred of science. They feel the corrodings of conscience, and the consciousness of inferiority which always supervene upon the neglect of known duty. Tormented in this manner, it is no wonder that they should steep their minds in forgetfulness, or vent them in reproaches against learning. A little reflection will dissipate these stagnant vapors of the brain, and recover the mind from a state no less inimical to improvement than would be the destruction of the intellectual faculties.

19. An evil not altogether different from the preceding, is that of waiting for more favorable circumstances. That is an abandonment without alleged reasons; this for reasons alleged, but insufficient. A bare postponement for a limited time would not of itself be fatal, but when taken in connection with the fact, that no change for the better is likely to occur at any future period, delay becomes equivalent to an entire rejection of the enterprise. He who will not begin with such means as he has, will probably never begin at all. It is necessary therefore

to commence the work at once, with or without facilities, as the case may be. Books are a desideratum not always easily supplied; especially the more important and approved text-books. But then these are not the only works that will answer. Almost any book of correct moral principles is a great acquisition. Should it be a dictionary or a treatise on metaphysics, it is not the less valuable,—such books are practical grammarians and expositors of words. In reading them the mind becomes familiar with a diction and definitions suited to the highest themes. Dr. Watts enumerates five ways of gaining knowledge; namely, reading, conversation, meditation, observation, and lectures. Now if one, for good reasons, cannot read, he still has left four other ways of improvement, and these, if industriously employed, will lead to distinction. Perhaps the latter modes have one advantage over reading, and that is, we use them with more reliance upon our own understandings.

20. Perhaps we may ascribe the failure of some to a neglect of natural aptitude. They

aimed to acquire what to them was impracticable. Men of the greatest genius have often been unable to learn particular sciences and arts. There are few universal geniuses; perhaps none. Of this peculiar inability we have an instance in the case of James Ferguson, an eminent astronomer and mechanician, and author of several popular works on those subjects. "I remember distinctly," says Dugald Stewart, "to have heard him say, that he had more than once attempted to study the elements of Euclid; but found himself quite unable to enter into that species of reasoning. The second proposition of the first book, he mentioned particularly as one of his stumbling-blocks at the very outset; the circuitous process by which Euclid sets about an operation which never could puzzle, for a single moment, any man who had seen a pair of compasses, appearing to him altogether capricious and ludicrous. He added, at the same time, that as there were various geometrical theorems of which he had daily occasion to make use, he had satisfied himself of their truth, either by

means of his compasses and scale, or by some mechanical contrivances of his own invention.”* Sir Walter Scott remarks of himself a similar defect in regard to perspective and music. “Even the humble ambition which I long cherished of making sketches of those places which interested me, from a defect of eye or of hand, was totally ineffectual. After long study and many efforts, I was unable to apply the elements of perspective or of shade to the scene before me, and was obliged to relinquish in despair an art which I was most anxious to practice.” “With music it was even worse than with painting. My mother was anxious we should at least learn Psalmody; but the incurable defects of my voice and ear soon drove my teacher to despair.”† Dr. Adam Clarke says, “There was one branch of knowledge in which he could never make any progress, viz. arithmetic.”‡ The celebrated Richard Baxter was also unable to make any proficiency in mathematics. It is not necessary to add that

* Elem. Philos., vol. 2, p. 140, *note*.

† Life, vol. 1, pp. 39, 40.

‡ Life, vol. 1, p. 19.

such sciences as seem thus to elude the grasp of our faculties should be omitted, for they cannot be acquired. The important point is to follow the natural inclination of the mind in the selection of studies; some knowledge may, indeed, be gained of those which are repugnant to our constitution, but it is only while we conform to our own peculiarities that we can hope for much proficiency. Among distinguished writers there is a great diversity of talent. One excels in criticism, another in argument, and another in style. Some prefer poetry, others history, and others metaphysics. But every man rises to excellence in his congenial pursuit; and in that alone.

21. Miscellaneous efforts belong to the class of hindrances now under consideration. The mind, not sufficiently intent upon high attainments, allows itself to rest satisfied with mere fragments of learning—with scraps of information, which though ultimately useful when blended into a new system by their possessor, can never by themselves be of much service. They are materials out of which systems may

be wrought, and a diligent mind will repair all deficiencies by elaborating science from such disjunctive hints. But miscellaneous and fragmentary knowledge, if suffered to remain in this condition, is almost entirely useless ; because, having neither order nor connection, it cannot be applied to practical purposes. Education demands science, and this demand can only be met by original invention, or by an appropriation of the labors of others. We may pass through forms which others have delineated, and arrive at a knowledge of their conceptions, and in this way such science becomes our own ; or, if required by circumstances, the same acquisitions can be made without the intervention of assistance. In the latter case, the mind is placed on a level with its predecessors, and has an opportunity of rivalling them on the same ground. It was thus that in his own day, the genius of Newton was equalled by Leibnitz, and at a later period by Rittenhouse. We do not object to miscellaneous acquisitions if they can be carried forward to completion ; they may serve as stepping-

stones to high advancement. It is the liability to rest in such acquisitions that renders them dangerous; it is resting in them that makes them useless—makes smatterers instead of men of learning.

22. We may trace much evil to an idea that small fragments of time are of no use in literary pursuits. Where persons are compelled to labor, or where business of any kind necessarily consumes a large proportion of time, opportunities for study will, of course, be greatly reduced. But the busiest life affords some moments of leisure, and if these are faithfully devoted to learning, and with the impetus which labor gives to mental effort, there will be no real cause for regret that further opportunity was wanting. In the comparatively brief period allotted to such objects, the mind by diligence traverses the whole circle of science, and stands at last on as lofty an eminence of scholarship as a life of the most exclusive study could have attained. This grand result proceeds from a judicious improvement of those minute portions of time which by the multitude are

thrown away because they are small, and, for no other reason. They appear not to be aware that these particles, though separated in themselves, will be united in their effect. Hence, the wastage of life—those odd minutes and leisure hours incident to all employments, and devoted by the student to snatches from whatever author may be at hand, they never improve by reading. Some frivolous entertainment is called in to give relaxation to the mind when it already suffers—suffers for want of labor. The solid and comprehensive truths of science, the pleasing and elegant accomplishments of literature would be a far better cordial than public amusement or private sauntering. A great mistake prevails in relation to the length of time which an acquaintance with science must necessarily require. That years are spent in the study of particular sciences is true, and that the study of years does not exhaust them is equally true; but this alters not the fact, that a general and sufficient knowledge of such science may be acquired in much less time. Dr. Adam Smith has remarked that

the principles of almost any trade may be learned in a few weeks as well as in many years. The practical skill requisite to mechanics would not be perfect, yet the general principles of the art could be communicated. In science, a similar abridgment of time is practicable, without sacrificing any real advantage. A few weeks, or even days, of determined and intelligent study, will often give an individual more knowledge of a science than whole years of listless, obsequious toil. Bacon, while yet in his novitiate, saw through all the sciences of that age. His penetrative glance so scanned the domain of existing knowledge as to leave nothing for his ambition in future years but improvement of science. Now if so short a period will suffice to decide upon the merits of an encyclopedia, and to project a revolution in science, the benefits of which must continue until tongues shall cease and knowledge shall vanish away, then, it follows that the smallest fraction of time has an intrinsic value in this pursuit, and may be productive of the highest consequences. Should the irregularity

which this interrupted mode of study will occasion be deemed objectionable ; should it altogether deprive the student of many of those introductory sciences by which, under other circumstances, his progress might be characterized, let it be remembered that these are things which cannot lessen the value of knowledge when gained. On the contrary, they may even enhance its importance by imparting certain qualifications rarely afforded by a more tedious preliminary process. "It was said by Eugene of Savoy, that the greatest generals have commonly been those who have been at once raised to command, and introduced to the great operations of war without being employed in the petty calculations and manœuvres which employ the time of an inferior officer. In literature, the principle is equally sound. The great tactics of criticism will, in general, be best understood by those who have not had much practice in drilling syllables and particles."*

23. With many there is a distrust of time—

* Macaulay's *Miscellanies* : (Athenian Orators.)

they are not willing to depend upon time to bring their efforts to maturity. From the uncertainty of life, they are afraid of not living to reap the fruit of their labor. Or, if exempted from fears of this kind, they imagine others have so much the start of them, and that the world is so pre-occupied as to exclude all chance of success. These notions are equally unfounded. Life is precarious, but its precariousness is much more regarded by the young than by the old. Not that the aged are less convinced of human frailty, for the fact in this respect is far otherwise; the reason of their apparent indifference is, that they are aware such impressions, if indulged, must be destructive of all enterprise. Barely contingent evils are either to be thrown entirely out of the account, or allowed to exert no other than a quickening influence upon necessary duties. But probably the idea that time will not furnish an occasion for the exercise of any abilities which we may acquire, is still more detrimental. Such is the constitution of society and such the course of affairs, that every individual will, sooner or

later, find a station fitted to his capacity, be that capacity little or great. Learning makes employment for itself; it creates a demand which nothing else can supply. And, therefore, as it regards pre-occupancy, we may pronounce it impossible. Genius has power to change the direction of energy and modify the character of taste. It sees things in a new light, and opens upon the world new sources of enterprise. These considerations should allay impatience and remove doubt; for no greater security ought to be desired than others have enjoyed, and no further assurance of success than the certainty of being useful. Time is essential to all our undertakings, and the influence which it exerts in their favor, is rarely estimated. It not only carries us, without any agency of our own, through all the grades of human life, but improves our efforts and ripens to maturity projects which otherwise must have remained crude and worthless. This is a species of advantage that should engage the attention of the student not less than the man of business; to both it is the cherishing hand

of Providence through which the germ receives development. Lord Bacon has, not without reason, ascribed much to this source, that has too often been thought the product of talents merely. "Truth is by universal consent the daughter of time. It is a mark, therefore, of utter weakness and narrowness of mind to attribute infinite effects to authors, but to withhold its due from time, the author of authors and of all authority."*

24. The last hindrance which I shall notice arises from a false view of literary institutions. Literature, like commerce, is equally adapted to all places. It depends not upon localities, but upon energies. Yet with multitudes the name of a college is synonymous with education. They imagine that a residence there must necessarily make them scholars; to them the very atmosphere of such places is impregnated with science. And shut out from such favored scenes, denied access to the consecrated retreats of literature, where knowledge is supposed to be imbibed without study, it is no wonder they

* Interpretation of nature.

are little inclined to strenuous effort. Some knowledge—enough for the ordinary business transactions of life—they may feel compelled to acquire; but an extended education is not to be attempted in the absence of this local and principal advantage. How foolish this ignorant conceit is, must be evident to the least reflection. A very short acquaintance with literary institutions brings them upon a level with all other places which afford the means of instruction. One building is just as propitious to education as another. There can be no possible difference in local habitations and names, except as one may have books or teachers which the other has not. But we have already shown that books and teachers are not essential to mental proficiency; there is not, therefore, even here, any sovereign superiority in particular establishments of this nature. If we wish to retain the impression that such institutions are fraught with unusual dignity, or have any uncommon power by which they exorcise ignorance from the human mind, we can only do so by carefully avoiding all intercourse

with them, and leaving imagination to rove without the aid of reason. "Let him who is fond of indulging in dream-like existence," says Basil Montagu, "go to Oxford, let him study this magnificent spectacle, the same under all aspects, with its mental twilights tempering the glare of noontide, or mellowing the shadowy moonlight; let him wander in her sylvan suburbs, or linger in her cloistered halls; but let him not catch the din of scholars or teachers, or dine or sup with them, or speak a word to any of the privileged inhabitants; for if he does, the spell will be broken, the poetry and the religion gone, and the place of enchantment will melt from his embrace into thin air."* I will not question what the power of association can do; it is enough to have shown that no higher principle is involved.

* Life of Bacon, chap. 1.

CHAPTER X.

MOTIVES TO SELF-EDUCATION.

1. THOSE who have been obliged to educate themselves, have hitherto been subject to a certain degree of opprobrium; they have been regarded in the literary world as a sort of lower caste, from which might be withheld by those of more legitimate extraction, such honors and advantages as are peculiar to learning. I speak not now of collegiate honors or emoluments, but of that estimate of character—that just appreciation of attainments, which is more regarded by every man of real science, than titles or money. The literary man, and the self-educated, not less than others, feels little solicitude beyond the desire of a fair valuation; if merit is admitted, he cares not how capricious other allotments may be. When he has toiled with untiring zeal, and been so fortunate as to

produce works that fix the character of language and give immortality to his name, it is not just that he should still be called "illiterate."* When he has gone over the entire field of science and literature, and gained a position evidently in advance of most of his contemporaries, it is not right that his knowledge should be styled "multifarious and discursive, rather than correct and profound."† Discriminations of this kind may possibly be just in a given case, but not generally; not more so when applied to the self-educated, than to those educated at school. And yet to the one class they are applied with the greatest frequency; to the other class rarely, if ever. This evinces a determination not to admit the self-taught to an equal standing in the republic of letters; they may be naturalized as an act of favor or of justice, but must still be considered as

* Mr. Macaulay applies this term to Bunyan.

† See Amer. Bib. Repos., January, 1841, Art. 7, where these words are used by a writer to describe the attainments of Dr. Adam Clarke. This is the stereotype form of alluding to self-educated men; it does not seem fashionable to admit that they can by any possibility be thorough scholars.

aliens by birth, and as wanting in some of the requisites of perfect scholarship. It is for this reason that the offices of instruction are monopolized by those who have received what is called a regular education ; it is deemed hazardous for others to assume such responsibilities, as if fitness depended on the place where they had studied, and not on the things which they had learned. For the same cause, in England, every minister of the established church must have a university education ; and every practitioner of medicine, in London, must be a graduate of Oxford or Cambridge, in order to enjoy the honors and immunities of his profession. Such abuses are not so frequent in this country, but much of the same spirit which dictated the above regulation exists among us and manifests itself whenever an opportunity presents. A single instance will sufficiently confirm the present remark. By a requisition of the highest judicatory of this state, candidates for the bar are obliged to pursue their classical studies under a teacher,

or fail of admission.* These things show that oral instruction is considered essential to education, and that no one is fairly entitled to the character of a scholar whose acquirements have been made without such assistance. Now those who have confidence in the human mind, and who know such imputations as the foregoing to be both unjust and ridiculous, must feel anxious to relieve themselves from the withering influence of aristocratic pride. They will naturally desire by the unquestionable character of their own attainments to redeem self-education from unmerited reproach, and to demonstrate the folly of that assumed superiority now almost universally conceded to the graduate. Or if literature is an exception among human pursuits, and cannot be successfully prosecuted by individual enterprise and skill,—if there is still anything problematical in the undertaking, they must wish to solve the difficulty and place the truth beyond dispute.

* “Time spent in classical study without the aid of a competent teacher—will not be allowed.” Rules and Orders of the Supreme Court of the State of N. Y., p. 10.

Others are to come after, the world is yet to have its generations of depressed and unfortunate beings, and before all these are given up to convictions of impossibility with the certainty of dying in hopeless ignorance, a daring and benevolent spirit will aim to know the utmost limits of intellectual capacity. In short, the self-educated desire neither to be borne down themselves by obloquy, nor to be accessory to the evils inflicted upon the poor by the popular error, that education can be had only at literary institutions.

2. But however desirable it may be to repel the aspersions to which self-education has been so unjustly subjected, there is another motive of much sterner character—necessity. All that we learn must be self-learned, because others cannot learn for us. It matters not what a teacher may know, as his pupil can only learn by exercising his own mind; and if he will do this he may learn whether he has a teacher or not. But this necessity arises as well from the condition of science as from the constitution of the mind. I have already observed that

what is not known cannot be taught ; the student who departs ever so little from his text-book—who aims at anything more than second-hand knowledge, is obliged to be his own instructor. No one can guide him in unknown regions, and he must forever be confined to the beaten path or assume the responsibility of self-direction. We surely ought to acquiesce in a necessity which ultimately enforces independence, and wrests from pupilage all those who ever attain to honorable distinction. Providence interposes to prevent the evils of mental vassalage, and also to remind those who are destitute of foreign assistance, that they are able to help themselves.

3. By directing our own education, we secure an exemption from the trammels of authority. When the mind is just commencing its survey of things, and needs more knowledge than it has had time to accumulate, authoritative instructions are often necessary for the preservation of life or the direction of conduct ; but when time has afforded opportunities for acquisitions of knowledge

equal to the wants of the individual, this authority is no longer needed, and can no longer be exerted without injury to the intellectual constitution. Man was made to think for himself, and when he ceases to do so he is not the being his Creator designed ; he is absorbed by other minds, and loses his identity in the world around him. Nowhere is such a result more to be apprehended or more to be dreaded than in these halls of learning, where youth are expected to form their characters and store their minds with hoarded knowledge. Here the wisest men shape their ideas according to a text-book, and the understanding itself is subjected to the authority of authors. Not to submit, is contumacy ; to do so, is the destruction of reason. Under these circumstances, youth must become indifferent to truth, or blind to error ; must cease to think, or think only as they are bidden. Such a state of mind may consist well enough with pursuits which task only the memory, but it will not allow the higher faculties to be employed.

On this subject, as much, and more, has

been said by Lord Bacon. "In the habits and regulations of schools, universities, and the like assemblies, destined for the abode of learned men, and the improvement of learning, everything is found to be opposed to the progress of the sciences. For the lectures and exercises are so ordered, that anything out of the common track can scarcely enter the thoughts and contemplations of the mind. If, however, one or two have perhaps dared to use their liberty, they can only impose the labor on themselves, without deriving any advantage from the association of others; and if they put up with this, they will find their industry and spirit of no slight advantage to them in making their fortune. For the pursuits of men in such situations are, as it were, chained down to the writings of particular authors, and if any dare to dissent from them, he is immediately attacked as a turbulent and revolutionary spirit."*

And again, in the tract on the Praise of Knowledge, he says, with more severity: "In the universities of Europe at this day,

* Nov. Org. b. 1, aph. 90.

they learn nothing but to believe: first to believe that others know that which they know not; and after, themselves know that which they know not. They are like a becalmed ship; they never move but by the wind of other men's breath, and have no oars of their own to steer withal." That these institutions are what they were in the days of Bacon, and that they must ever remain substantially what they now are, may be shown without difficulty. The first of these facts is familiar to all who have any knowledge of the present state of Europe. It is thus alluded to by Dugald Stewart. "Unwilling as I am to touch on a topic so hopeless as that of Academical Reform, I cannot dismiss this subject, without remarking, as a *fact*, which, at some future period, will figure in literary history, that two hundred years after the date of Bacon's philosophical works, the antiquated routine of study, originally prescribed in times of scholastic barbarism and of popish superstition, should in so many Universities, be still suffered to stand in the way of improvements, recommended at once by the

present state of the sciences, and by the order which nature follows in developing the intellectual faculties.”* The second assertion—that such institutions must remain as they now are, is but too evident both from the history of the past and from the nature of the case. Causes which have operated to prevent any change thus far—causes which, for a period of two hundred and fifty years of unparalleled intellectual activity, have kept the universities of Europe stationary, will certainly be able to control them for the time to come. But admitting a change in the order of studies and in the kind of studies, yet there can be no improvement because the mind is still subject to authority and can never by such aids enlarge the boundaries of knowledge. Its “entire hopes and fortunes must be wrapt up in the weak brains, and limited souls of about half a dozen mortals,”† while original sources are left unexplored, and the highest powers unemployed.

4. Setting aside the elevated attainments now mentioned, which can be achieved only

* Elements Phil., vol. 2, p. 352.

† Interp. Nature.

by self-education, there is with many another species of necessity that the most unsparing disposition cannot remove. Poverty has excluded them from such advantages as are furnished by schools, and their only election is between self-education and ignorance. In this instance the motive has all the force of a divine appointment. The student feels that his task has been assigned him by that Being with whom are the treasures of wisdom and knowledge, and that its difficulties are only intended as an inducement to diligence—to that diligence which rightly claims supernal patronage. Something more than an ordinary love of independence, and something higher than the wonted range of mental aspiration, may perhaps be necessary to determine in favor of this course the choice of one who has means at his command; but to the poor, it is the destiny of nature, and he must either educate himself or yield all hopes of improvement. He may consent to part with originality and never to rise above the subordinate character which a college can bestow, but it avails nothing; for even these

acquisitions are denied to poverty on every other condition but that of self-directed toil. On one side is the cheerless oblivion of ignorance ; on the other, the insurmountable heights of science. It is here, in the outset of life—of such a life—that the true dignity of human nature is displayed. No assistance has been proffered, and therefore none is needed. Under these circumstances, we are justified in presuming upon the highest attainments by the force of mind alone. This original capacity in man for dispensing with the ordinary means of improvement, is one of those conservative principles by which, when the cycle of error is completed, he starts anew in the career of science. Thus, as a compensation to the poor, the guarantee of greatness is doubled ; to the law imposed by the nature of science, is added deliverance from temptation to inferior achievements.

5. Emulation is a motive which, however easily corrupted, certainly and deservedly exercises great influence on every well-constituted mind. When greatness ceases to in-

spire emotion, the individual has sunk too low to be the subject of hope. A desire for noble deeds always arises spontaneously in the presence of merit. The uneducated youth may look upon the great masters of science and say, if not as Corregio, when he first saw the paintings of Raphael, "I too am a painter"—yet, as one conscious of possessing a kindred nature, "I too have a mind." These are his examples, their success is the pledge of his own, and he is thankful that the world offers resistance enough to his progress to call for efforts which may identify him, with the benefactors of mankind. Others have had their difficulties to encounter, and he would not be without his; he entertains no inferior hope and stipulates for no inferior task.

6. Learning deranges the state of society by destroying the natural equality of individuals; and hence the cultivation of the mind becomes indispensable as a means of self-preservation. To be ignorant, is to allow others more knowledge of us than we have of ourselves. It is to give them the same advantage over us, that one who can see has

over one that is blind. Could we consent to part with our physical faculties and powers—the eyes, the ears, the hands or the feet, we should be no more helpless nor foolish than he who suffers his mind to be uncultivated. Science is an inexhaustible source of felicity and power to mankind; and prosperity is little more than a name for the practical application of knowledge to the affairs of life. What do we require to combat disease, to gain wealth, or to expound the laws of nature, but more knowledge? The unlearned, if it is their fortune to live among the intelligent, are as imbecile and dependent as children, continually liable to all sorts of impostures, and suffering without the possibility of avenging injuries. Among society of their own grade, nature would assume the control, and as she has not given to lions and tigers, guns and swords, so she would not permit savage rusticity to arm itself with the tremendous power of science. Should it be thought that the great diversity of trades and sciences leaves even the learned obnoxious to this species of abuse, we have only to say that

acquiescence on their part must be voluntary, as they have the means both of detection and redress in their own hands. Why has one nation despoiled another, and why has political, pecuniary and social depression afflicted large majorities of mankind in every age? Is it not because ignorance disqualifies for high pursuits—dwarfs the affections, dims the eye and paralyzes the arm, reducing to vassalage those whom nature meant to be free? It is by ignorance that oppression is upheld. Let light in upon the public mind, and the most reckless despot dare not move. It was only under the cover of darkness that he ventured to approach his victim, and it is only while that covering shields him from observation that he has power to inflict the wrong. The acquisition of knowledge is therefore a dictate of necessity, and cannot be neglected by any who are not equally regardless of duty and of safety. Submission or intelligence is inevitable; and those who fail of the latter, will not escape the former.

7. This system affords the only real greatness. Minds which never arrive at majority,

can never do more than to follow established usages. They learn what others have learned, and do what others have done; but this is a task that confers no distinction, because it evinces no capacity, or none that deserves to be noticed. It is by the performance of acts which require original talent that character is shown, and that character is formed. Such as tamely follow a leading mind have nothing that can be called their own; they drift along with the current of other people's thoughts, too inactive to think for themselves and too unambitious to attempt anything new. What Dr. Aikin has observed in reference to some who fill important stations in society, is not less applicable to many who pass for learned men. "The great affairs of the world are frequently conducted by persons who have no other title to distinction than merely as associated with these affairs. With abilities not at all superior to those of a clerk in an office, or a subaltern in a regiment, the civil and military concerns of great nations are often managed according to a regular routine, by men whom chance of birth alone has elevated

to high stations. Such characters appear in history with a consequence not really belonging to them; and it seems the duty of a biographer in these cases to detach the man from his station, and either entirely to omit, or reduce to a very slight notice, the memorial of one whose personal qualities had no real influence over the events of his age, and afford nothing to admire or to imitate.”*

However great the powers of the mind may be, they can only develop themselves to our view by their acts; where these acts, by which alone our judgment is to be determined, bespeak nothing original—nothing but absolute dependence and blind obsequiousness, we justly conclude either that there is no talent or that none has been employed. Now, as talent cannot be known even to its possessor except by this practical application, and as what we attempt must ever bear some proportion to the estimate we place upon our abilities, the beneficial tendency of a system calculated to elicit these powers in the highest degree becomes fully apparent. The indi-

* Memoir of John Aikin, p. 112.

vidual learns the measure of his strength, and aims at objects great enough to occupy that strength ; but left to ignorance of himself, his powers are sure to be wasted upon puerilities. He may glide along the beaten path of science, but it is with a mean servility that provokes only contempt ; he creeps where he ought to walk, and bows where he ought to stand erect. He divests mind of its prerogatives and sinks it to the level of matter ; receives direction from everything and gives direction to nothing. "No business or study," says Dr. Channing, "which does not present obstacles, tasking to the full the intellect and the will, is worthy of a man. In science, he who does not grapple with hard questions, who does not concentrate his whole intellect in vigorous attention, who does not aim to penetrate what at first repels him, will never attain to mental force." This assertion is so perfectly in accordance with the laws of mind and the history of intellectual character, that we cannot but wonder how any should have been so far mistaken as to hope for excellence

by other means, or as to deem the obstacles to self-education real disadvantages.

8. A generous nature will not only aim to possess real greatness, but also to diffuse it. This can best be accomplished by the influence of example, as one successful instance settles the question of practicability in favor of all who wish to repeat the attempt. We need only to know what others have done to feel a sort of compulsion to do at least as much. Men are both imitative and sympathetic, hence, a brilliant example never fails of extensive effect. All see that what has been done, can be done; all feel that what may be done, should be done. It is thus that such a literary character as Shakspeare, has infused hope into myriads of minds that might otherwise have sunk in despondency. The man who was to stand at the head of English literature was not to be a cloistered student of Oxford or of Cambridge. This honor was reserved for one who owed nothing to colleges, or to college studies—for one who, in the graphic language of Ben Jonson, “had small Latin and less Greek,” and whose

only school was the theatre. The genius of learning passed by the polyglots of that age and devolved this high distinction upon one of the lowest pretensions, and, apparently, in the most unpropitious circumstances—upon a servant boy, without science, and without assistance. Every example of this kind inspires confidence in those who are denied the usual advantages for improvement. As soon as they perceive that it is not unreasonable to hope for the highest excellence, they become conscious that their exertions cannot be in vain.

It is under the excitement produced by such a state of mind, that the soul acquires its mastery over opposing circumstances.

“The fixed and noble mind
Turns all occurrence to its own advantage.”

This unalterable purpose often gives to the very slightest means the greatest efficiency. Powers never deemed equal to high achievement suddenly assume control, and nothing is able to impede the progress of him who seems to be helped by nothing. The indi-

vidual, in such cases, is not without help ; but being without the usual help, he is supposed to have none. His success arises from the force of application. To use a mechanical phrase, it is the increased momentum with which the obstacles before him are assailed, that makes them yield to such naturally feeble means. Mr. Mudie says, that a single thread of a spider's web, might be made to move fast enough to cleave the earth asunder. Now, although this is somewhat extravagant, and like the infinite divisibility of matter, deserves to rank with scholastic fictions, yet it is undoubtedly true that the slender means in the hands of every youth, may be applied with sufficient force to overcome all difficulties in the way of his advancement. When difficulties have thus been overcome solely by dint of application, there remains a much more complete sense of independence than if the work had been effected by the help of accumulated facilities.

CHAPTER XI.

MENTAL CHARACTERISTICS DEMANDED BY THE ENTERPRISE.

HAVING shown that self-education is both a solid and a practicable attainment, I shall designate some of the traits of mental character, on which its acquisition depends.

1. The first undoubtedly is, such a love of study as leads to an industrious application. For, although every mind has capacity enough to know all that can be known, and has actually learned numberless truths equal in importance to any which it still has to learn, yet every mind has not sufficient industry to acquire all that is within its reach. A considerable part of knowledge is spontaneous and inevitable, but the balance depends upon a voluntary application of powers which many are never inclined to devote to that object.

2. The next requisite is firmness of purpose. There must be an unalterable purpose to have an education, or everything is uncertain. When this determination is properly fixed in the mind, there need be no fear, except in a contest with divine Providence—and Providence itself often yields to an uncompromising sense of want. It is generally deemed advisable not to engage in pursuits without a fair probability of success, but here we fling probabilities to the wind, as there is no retreat without worse disaster than can possibly attend perseverance. The fact is, when the mind first determines upon this enterprise, it is influenced by higher considerations than can ever be brought to bear upon its relinquishment. Education, like religion, is a privilege and a blessing, not to be foregone, even with the consent and by the advice of the public.

Firmness is indeed necessary to respectability of character as well as to practical efficiency; and the individual who lacks this important quality is unfitted for any arduous service, and peculiarly so for that now under

consideration. “A man without decision can never be said to belong to himself; since, if he dared to assert that he did, the puny force of some cause, about as powerful, you would have supposed, as a spider, may make a capture of the hapless boaster the very next moment, and triumphantly exhibit the futility of the determinations by which he was to have proved the independence of his understanding and his will. He belongs to whatever can seize him; and innumerable things do actually verify their claim on him and arrest him as he tries to go along; as twigs and chips, floating near the edge of a river, are intercepted by every weed, and whirled in every little eddy. Having concluded on a design, he may pledge himself to it,—if the hundred diversities of feeling which may come within the week, will let him. As his character precludes all foresight of his conduct, he may sit and wonder what form or direction his views and actions are destined to take to-morrow; as a farmer has often to acknowledge the next day’s proceed-

ings are at the disposal of its winds and clouds.

“This man’s opinions and determinations always depend very much on other human beings ; and what chance for stability, while the persons with whom he may converse, or transact, are so various ? This very evening he may talk with a man whose sentiments will melt away the present form and outline of his purposes, however firm and defined he may have fancied them to be. A succession of persons whose faculties were stronger than his own, might, in spite of his irresolute reaction, take him and dispose of him as they pleased. An infirm character practically confesses itself made for subjection, and the man so constituted passes, like a slave, from owner to owner.

“It is inevitable that the regulation of every man’s plan must greatly depend on the course of events, which come in an order not to be foreseen or prevented. But in accommodating the plans of conduct to the train of events, the difference between two men may be no less than that, in the one

instance the man is subservient to the events, and in the other, the events are made subservient to the man. Some men seem to have been taken along by a succession of events, and, as it were, handed forward in quiet passiveness from one to another; without any determined principle in their own characters, by which they could constrain those events to serve a design formed antecedently to them, or apparently in defiance of them. The events seized them as a neutral material, not they the events. Others, advancing through life, with an internal, invincible determination of mind, have seemed to make the train of circumstances, whatever they were, conduce as much to their chief design as if they had taken place on purpose. It is wonderful how even the apparent casualties of life seem to bow to a spirit that will not bow to them, and yield to assist a design after having in vain attempted to frustrate it.

“Another advantage of this character is, that it exempts from a great deal of interference and persecution to which an irresolute

man is subjected. Weakness in every form tempts arrogance; and a man may be allowed to wish for a kind of character with which stupidity and impertinence may not make so free. When a decisive spirit is recognized, it is curious to see how the space clears around a man, and leaves him room and freedom. This disposition to interrogate, dictate, or banter, preserves a respectful and politic distance, judging it not unwise to keep the peace with a person of so much energy. A conviction that he understands and that he wills with extraordinary force, silences the conceit that intended to perplex or instruct him, and intimidates the malice that was disposed to attack him. There is a feeling, as in respect to fate, that the decrees of so inflexible a spirit *must* be right, or that, at least, they will be accomplished.”*

3. Another characteristic endowment is, a consciousness of intellectual ability. Those who may wish for authority in support of a sentiment like this are referred to the biographies of eminent men. But those who are

* Foster on Decision of Character. Letter 1.

candid and fearless enough to admit what passes within them, and have sufficient stamina to promise success in the hardy enterprise of self-education, can cheerfully attest the correctness of this position. This peculiarity is thus noticed by Dr. Johnson, in reference to two of the most distinguished English poets, Pope and Milton : " Self-confidence is the first requisite to great undertakings. He, indeed, who forms his opinion of himself in solitude without knowing the powers of other men, is very liable to error ; but it was the felicity of Pope to rate himself at his real value."* Of Milton he says : " It appears in all his writings that he had the usual concomitant of great abilities, a lofty and steady confidence in himself." " In this book (a work on Prelacy) he discovers, not with ostentatious exultation, but with calm confidence, his high opinion of his own powers ; and promises to undertake something, he yet knows not what, that may be of use and honor to his country. ' This,' says he, ' is not to be obtained but by devout prayer

* Life of Pope.

to that Eternal Spirit that can enrich with all utterance and knowledge, and sends out his seraphim with the hallowed fire of his altar, to touch and purify the lips of whom he pleases. To this must be added, industrious and select reading, steady observation, and insight into all seemly and generous arts and affairs; till which in some measure be compassed, I refuse not to sustain this expectation.' From a promise like this, at once fervid, pious and rational, might be expected the *Paradise Lost*."* Indeed they who undertake to do without assistance what others have found a hard task when aided by every possible help, may well be pardoned some reliance upon the vigor of their own understandings. How early this feeling of confidence develops itself, is matter of conjecture, but probably it is coeval with the formation of the adjunct peculiarities that enter into the constitution of great minds. This confidence enabled Columbus to adhere to his conclusions and plans—to defend them, and secure patronage to complete the most haz-

* Life of Milton.

ardous voyage ever undertaken. Numerous instances might be adduced where a consciousness of ability and of the rectitude of his proceedings, has remained to the abettor of noble enterprises, as his chief support amid the treachery and imbecility of surrounding contemporaries.

4. A willingness to engage in difficult and dangerous attempts, or high mental courage, is the next attribute of a mind adapted to the exigencies of this pursuit. If the derision with which pride and insolence never fail to treat those who are below them in external advantages, has any terrors to the aspiring mind, there is little hope of success. If we grant, for the sake of the argument, that there will be a competition between the self-educated and the college graduate, will it tend to the disparagement of the former? Certainly not. The whole strife must be upon grounds not before occupied by either party, for who disputes about the elements of knowledge that are taught in schools? He who fears to advocate the truth merely because the battery of formal criticism will be

opened upon him, may properly be excused from taking any part in the service of mankind. Such a timidity shrinks from the path of duty, and would shackle effectually the most finished scholar. The literati inflict upon each other the most caustic reviews and criticisms. Longinus says, that the blemishes of the best Greek writers—and the Greek writers are reputed the best in the world—greatly exceed their beauties. “If any one should pick out the slips of Homer, Demosthenes, Plato, and the other consummate authors, and put them together, the instances in which those heroes of fine writing have attained to absolute perfection, would be found to bear a very small, nay, an indefinitely small, proportion to them.”* Nor is there any reason why irregularity in education should furnish a sanctuary for mistakes.

Self-education is not necessarily imperfect, and the reproach and suspicion with which it stands connected in the minds of some, have arisen from weak and superficial at-

* On the Sublime, sec. 36.

tempts, or from an utter want of judgment and taste which is so characteristic of a few who have had the entire control of their own education. What if a few have been justly chastised for carelessness, and censured for palpable faults? shall we refrain from making a declaration of our sentiments for no other reason than this—that obvious literary abuses cannot be tolerated? It would be better to take the course of the celebrated John Howard, who, not understanding the grammar of his native language as fully as was desirable, employed a more competent hand to revise his works before they went to the press.* It is far more difficult to acquire sentiments and truths that shall deserve publicity, than to clothe them in appropriate diction. Yet it must be acknowledged that they who have not industry enough to learn to write, are not likely either to form valuable conclusions, or make new and useful discoveries.

Literary efforts, although entirely useless in themselves, tend to the formation of habits

* See Life of Howard, by Dr. Aikin.

decisive of future eminence. And to discourage juvenile efforts for fear of a drawback upon the popularity of after life, evinces no particular discernment. There is a sort of apprenticeship in great business as well as small, in which to look for perfect efforts is a violation of common sense. Those, therefore, who would be so cautious as never to err, are left to the sad alternative of never beginning.

Nothing can be more certainly destructive of all the possibilities of improvement than this excessive and needless fear. "An heroic mind is more wanted in the library or the studio than in the field. It is wealth and cowardice which extinguish the light of genius and dig the grave of literature as of nations."* There can be no excellence where there is not originality, and there can be no originality where there is not independence. Nor is there the danger in putting forth new exertions which many have supposed. It is commonly imagined that great geniuses hazard their reputation by every subsequent ef-

* Blackwood's Magazine, January, 1845.

fort, but it would be difficult to assign any sufficient reason for an assumption of this kind. Unless the intellect exhausts itself by its labors, of which there is not the least evidence, we see not why its successive productions may not possess the same intrinsic excellence.

5. In the mind of every successful student literature and science are made an integral part of the leading enterprise. No man was ever learned by chance. Attainments of this kind are the result of industry directed to a specific object, whether that object be a livelihood, the establishment of important principles, or competency in any of the professions. When the importance of science is duly recognized, it no longer ranks as a mere contingency; the individual pays the same attention to his studies as to his other pursuits. Learning, once regarded as necessary, ceases to depend upon convenience, and is reached like any other indispensable object without reference to time or money. What we must have, we rarely fail to obtain. This accounts for the extraordinary acquisitions

of some eminent men—their purpose carried with it a necessity for just such acquirements. Dr. Webster after he had concluded to write his American Dictionary, spent ten years in preparatory studies, although he was at that time one of the most accomplished and profound scholars. During this period he acquired a competent knowledge of twenty foreign languages. Now if this accession of knowledge had not been rendered necessary by the part which the great lexicographer had assigned to himself, and if that necessity had not been felt in his own mind, he would never have grasped at these vast literary treasures. Those who think to serve either the public or themselves efficiently without science, give us no reason to believe they will ever obtain an education, and our conviction of the futility of their casual studies should not be withheld from their knowledge.

These are among the more obvious peculiarities of mind demanded by literary and scientific pursuits. We have not enumerated genius as one of these requisites, because its existence, beyond what is implied in the

qualities here specified, is not essential to success. He who loves an enterprise, who resolves to accomplish it, who dares to meet every danger which it involves, and who makes his arrangements accordingly, can never be defeated. These energies, if not genius, are at least equivalent to genius; they secure the desired result with as much certainty, if not with as much facility.

CHAPTER XII.

ERRORS OF SELF-EDUCATION.

It is a fact not to be disguised that self-education has been regarded as peculiarly and hopelessly defective ; its character for error is such that those who claim to fix the meaning of language would withhold from it the very name of education. But a little attention will place this subject in a different light—in a light so different that the alleged imperfection will be found to be a positive excellence.

The errors charged upon self-education consist chiefly in violating some of the minor rules of criticism. Yet the observance of such rules is utterly impossible to a work of genius. Self-education is an original work, and must have all the peculiarities of an original work. The critics have undertaken a task which they can never execute. They

would give laws to language and laws to mind ; but they cannot do either without destroying what they attempt to improve. Wherever their authority is acknowledged as paramount, there genius dies and improvement ends. The effect of their labors has never been more complete than in France, and never more disastrous. Dr. Campbell, having noticed the absurdities which, in our own language, have resulted from this volunteer service, says : “The French critics, and even the academy, have proceeded, if not always in the same manner, on much the same principle in the improvements they have made on their language. They have indeed cleared it of many, not of all their low idioms, cant phrases, and useless anomalies ; they have rendered the style in the main more perspicuous, more grammatical, and more precise than it was before. But they have not known where to stop. Their criticisms often degenerate into refinements, and everything is carried to excess. If one mode of construction, or form of expression, hath been lucky enough to please these arbitrators of

the public taste, and to obtain their sanction, no different mode or form must expect so much as a toleration. What is the consequence? They have purified their language; at the same time they have impoverished it, and have, in a considerable measure, reduced all kinds of composition to a tasteless uniformity. Accordingly, in perhaps no language, ancient or modern, will you find so little variety of expression in the various kinds of writing, as in the French. In prose or verse, in philosophy and romance, in tragedy and comedy, in epic and pastoral, the difference may be very great in the sentiments, but it is nothing, or next to nothing, in the style." Well and sternly does he add, "Is this insipid sameness to be envied them as an excellence? Or shall we Britons, who are lovers of freedom almost to idolatry, voluntarily hamper ourselves in the trammels of the French academy?"*

Here then we see what criticism can do for the perfection of languages. It can pervert and destroy, but it cannot improve them.

* Philosophy of Rhetoric, b. 3, chap. 4, sec. 2.

The languages of Greece and Rome were excellent, but they attained their excellence, and all their excellence, before the critics lent their assistance. The languages of these nations rose and declined with their virtues, and philology had nothing to do with their origin or continuance. But the whole subject derives its greatest light from the fact that words are only representatives of ideas. Grammar and rhetoric belong to thought, they exist in the thought before they are transferred to words. Hence the operations of the critic should be directed to mind rather than to language. He should teach us how to shape our ideas, as ideas must determine both the character and arrangements of words. The author to whom we have just referred, makes a distinction between rhetoric, and grammar, the correctness of which we are not able to perceive. He thinks the former is a natural and the latter an artificial method. "From all the examples above quoted, those especially taken from holy writ, the learned reader, after comparing them carefully, both with the original, and with the translations

cited in the margin, will be enabled to deduce, with as much certainty as the nature of the question admits that that arrangement which I call rhetorical, as contributing to vivacity and animation, is, in the strictest sense of the word, agreeably to what hath been already suggested, a natural arrangement; that the principle which leads to it operates similarly on every people, and in every language, though it is much more checked by the idiom of some tongues than by that of others; that, on the contrary, the more common, and what for distinction's sake I shall call the grammatical order, is, in a great measure, an arrangement of convention, and differs considerably in different languages. He will discover, also, that to render the conventional or artificial arrangement, as it were, sacred and inviolable, by representing every deviation (whatever be the subject, whatever be the design of the work) as a trespass against the laws of composition in the language, is one of the most effectual ways of stinting the powers of elocution, and even of damping the vigor both of imagination and of passion. I

observe this the rather, that, in my apprehension, the criticism that prevails amongst us at present leans too much this way.”* This is most certainly a distinction without a difference. These kindred sciences are so interwoven with each other, and the relation which they hold to language is so similar, as to make it altogether improbable that they should not have a common origin. They are constituent principles of speech and without them language, whether written or spoken, cannot exist—cannot, because it would cease to represent things. We have no evidence that any, even the most unimportant part of language is the work of man, and whenever he has attempted to improve this production of nature, his efforts have necessarily impaired what had otherwise been perfect.†

* B. 3, chap. 3, sec. 2.

† “All languages whatever, even the most barbarous, as far as hath yet appeared, are of a regular and analogical make.” *Philosophy of Rhetoric*, b. 2, chap. 7, sec. 1.

“If language is a human invention, it was the invention of savage man, and this creation of barbarism would be a higher trophy to human power than any achievement of civilization. The study of the rudest dialects tends to prove, if it does not conclusively prove, that it was not man

It follows therefore that those faults which are alleged against self-education, are only traits of independent genius—mere varieties of nature, and inseparable from original achievement. This conclusion is strengthened not a little by the remarkable fact that no eminent writer has ever paid the least attention to what may be called the critical code. Every great writer has followed his own taste and judgment, to the neglect of all rules and all authorities, except so far as they may incidentally have been a matter of convenience. Nor has this refusal to take the advice of critics abated in any degree the fame or the usefulness of these authors. Who reads Dr. Johnson the less because his style has been severely censured? or, who for this reason will lay aside the volumes of Jonathan Edwards? when will Locke or Shakspeare become as obsolete as some of their phrases? or in other words, when will they be rejected out of regard to the laws of style? As none of these valuable writers, nor any like them, who made language, but he who made man gave him utterance.” Bancroft's History, vol. 3, p. 268.

will ever be the less esteemed for such defects,—if defects they be,—it follows that the authority of criticism is merely nominal; that it never had, and never can have, any real influence upon the destiny of genius.

There is another class of errors having their origin, not in constitutional peculiarities, but in a divergence from the common path of information. Not unfrequently is the self-educated man obliged to glean his knowledge from sources wholly unknown to the ordinary student. Whether this necessity is upon the whole any disadvantage is another question altogether, but if after being educated in this manner he is to be tried by the common standard of attainments, he will no doubt appear deficient. And who would not? It is no way probable that Homer had the knowledge necessary to an examination in one of our modern schools. Demosthenes and Cicero united could not have answered half the questions in one of our works on elocution. Hannibal knew nothing of tactics, nor Archimedes of mathematics, compared with a student at West Point. Bacon was no

philosopher if the lessons of the present day are made the standard, and Chesterfield would be taken for a clown by a modern *petit maitre*. Such are the absurdities which inevitably result from the assumption that education depends upon a particular class of studies. We therefore conclude that a person who is really ignorant of many things embraced in the popular system of instruction, may still be justly considered as educated. Among this class of errors are to be ranked certain mistakes in the use of language—mistakes which no more prove that their authors are uneducated than the imperfect efforts of a foreigner to speak our language prove that he is illiterate. Terms familiar to those who have read one author may be wholly unknown to those whose reading has been confined to other authors. For this reason a person of no inferior knowledge might confound Ptolemy the geographer with Ptolemy king of Egypt, or regard Cicero and Tully as different individuals. In a letter to lord Montagu, Sir Walter Scott mentions a similar blunder committed by the Ettrick Shepherd.

“Hogg is here busy with his Jacobite songs. I wish he may get handsomely through, for he is profoundly ignorant of history, and it is an awkward thing to read in order that you may write. I give him all the help I can, but he sometimes poses me. For instance, he came yesterday, open mouth, inquiring what great dignified clergyman had distinguished himself at Killiecrankie—not exactly the scene where one would have expected a churchman to shine—and I found, with some difficulty, that he had mistaken Major-General Canon, called, in Kennedy’s Latin song, *Canonicus Gallovidiensis*, for the canon of a cathedral.”* There is a passage often quoted from Dr. Johnson, which I believe no one would be likely to understand without reading it in its original connection. “That man is little to be envied, whose patriotism would not gain force upon the plain of Marathon, or whose piety would not grow warmer among the ruins of Iona.”† The classic field of Marathon—known wherever anything of Gre-

* Lockhart’s Life of Scott, vol. 4, p. 171.

† Journey to the Western Islands.

cian history is known—is here associated, not with some equally celebrated spot of the Eastern world, but with one of the Western Isles of Scotland. We cannot dispute the claims of Iona, yet its comparative obscurity leaves the reader dependent upon the author's narrative for a full understanding of this allusion. For the same reason, and to a much greater extent, all the merely technical terms of art and science, are unintelligible to those who have acquired their knowledge by original observation without the use of scholastic forms. Roger Bacon, whatever may have been his skill in chemistry, would not have recognized the substances with which he was familiar, if their names had been rehearsed according to the new chemical nomenclature. It is therefore somewhat worse than idle to allege defects of this kind as proof of ignorance; and it is even more ridiculous to offer them as evidence of a want of education, for a person may be ignorant of a particular science, and yet not be uneducated. No one need either be, or appear to be, illiterate, because he has not made the circle of the

sciences. Care should be taken to avoid the use of words which we do not understand, and if this is done, there will be no room for those blunders so frequent among the superficial and the thoughtless. It detracts nothing from the merit of genius that its acquisitions are not universal. "No man," says Dr. Watts, "is obliged to learn everything." Much less is it necessary to dip into everything in order to acquire the character of a scholar. This character depends upon accuracy rather than extent; it consists of knowledge rather than of boundless knowledge.

Still we do not mean to say that self-education has not its errors. The truth is, there is no education but what has its defects; and if most of those charged upon self-education may be referred to that unalterable law of nature, which gives rise to specific differences, then the admission of its errors is no concession of inferiority. The assertion so often made in substance,—that self-education has nothing to lose by the most rigorous comparison with that which is furnished by the schools—remains an established fact. Faults

it has, but they are the faults of greatness. They are such faults as are inseparable from intellectual exercise, unless in the low department of mere mnemonics. They are errors, in short, which cannot be avoided without committing greater ones. If the so called regular student is not subject to them, it is because he dare not think for himself. He sacrifices all the chances of eminence to an ignoble fear of violating the foolish rules that critics have instituted without any authority but their own caprices. It is observed by Dr. Campbell in the latter of the preceding quotations from him, that to treat all deviations from the acknowledged standard of grammatical accuracy as violations of the laws of composition, "is one of the most effectual ways of stinting the powers of elocution, and even of damping the vigor both of imagination and of passion." He had too sagacious a mind not to perceive that the master-pieces of ancient and modern literature were characterized by a freedom totally inconsistent with any great attention to such authority. He saw that they were pervaded

by an ambition of higher excellence, and by an energy that could not brook unauthorized control. He saw also that wherever the meddling of criticism had been regarded, wherever its inferior suggestions had been followed to the neglect of original genius, there talent had invariably sunk to mediocrity, and drivelled in puerile imitations. Self-education may expose us to the censures of the critic ; but the obsequiousness too often contracted in the schools makes us contemptible to men of sense. One precludes the approbation of the aristocracy of learning ; the other deprives us of the merit necessary to immortality. Therefore if there are errors in the former, there are still greater errors in the latter ; and if the one demands our utmost vigilance, the other demands a constant solicitude added to that vigilance.

The evils arising from a predominance of criticism are well expressed by an anonymous author. "There is a most grievous impediment to genius in later, or, as we term them, more civilized times, from which in earlier ages it is wholly exempt. Criticism, public

opinion, the dread of ridicule—then too often crush the strongest minds. The weight of former examples, the influence of early habits, the halo of long-established reputation, force original genius from the untrodden path of invention into the beaten one of imitation. Early talent feels itself overawed by the colossus which all the world adores ; it falls down and worships, instead of conceiving. The dread of ridicule extinguishes originality in its birth. Immense is the incubus thus laid upon the efforts of genius. It is the chief cause of the degradation of taste ; the artificial style, the want of original conception, by which the literature of old nations is invariably distinguished. The early poet or painter who portrays what he feels or has seen, with no anxiety but to do so powerfully and truly, is relieved of a load which crushes his subsequent compeers to the earth.”* It is only in an enervated condition of the mind that the works of genius thus paralyze its powers. In a healthier state—when its faculties are unimpaired by vice and unmembar-

* Blackwood's Magazine, January, 1845.

rassed by false direction, the influence of great example is altogether salutary. Hence that decline to which the literature of old nations is subject, is an effect of dotage, and proves that the public mind is no longer competent to distinguish deeds. The genius that suffers itself to be crushed by "the weight of former examples," is only the feeble off-shoot of a greatness which neutralized unfavorable influences and rose to higher eminence as it met with sterner toils.

Although the rules of criticism which self-education disregards are futile and of no authority whatever, yet there are certain general principles which enter into the composition of every work of genius. These the judicious critic recognizes as essential to mental integrity, but with the details of their application he never attempts to interfere. They are such principles as may be said to originate works of excellence as well as to pervade them; they are prerequisites without which such works cannot exist, and with which they cannot fail to exist. Longinus has given five directions for producing the

sublime, but they are all clearly resolvable into the first two, which, according to his own admission, are natural endowments:—

“Now there are, if I may so express it, five very copious sources of the sublime, if we presuppose a talent for speaking, as a common foundation for these five sorts; and indeed without it, anything whatever will avail but little.

“I. The *first* and most potent of these is a felicitous boldness in the thoughts, as I have laid down in my Essay on Xenophon.

“II. The *second* is a capacity of intense and enthusiastic passion; and these two constituents of the sublime, are for the most part the immediate gifts of nature; whereas the remaining sources depend also upon art.

“III. The *third* consists in a skilful moulding of figures, which are two-fold, of sentiment and language.

“IV. The *fourth* is a noble and graceful manner of expression, which is, not only to select significant and elegant words, but also to adorn the style, and embellish by the assistance of tropes.

“ V. The *fifth* source of the sublime, which embraces all the preceding, is to construct the periods with all possible dignity and grandeur.”*

Every reader will at once perceive that the third and fourth of these rules are as really founded upon the two preceding ones, as the fifth is upon them all united. This being the case, he who observes the first two cannot violate the three following. Boldness of thought gives boldness of language, and intense feeling secures intense expression. Nor can these results be obtained by any other means so perfectly. Most critics acknowledge the necessity of these fundamental principles, and then with strange inconsistency, proceed to furnish a multitude of rules directly subversive of the freedom and energy which they had enjoined. It is this contradiction of himself that makes the labors of the critic contemptible.† He would be re-

* Longinus on the Sublime, sec. 8.

† Pollok has well described this class of writers:

“ The critics—some, but few,
Were worthy men, and earned renown which had

spected, and his efforts might be useful, if confined to a simple notation of the circumstances under which the productions of genius take their rise. But consulted as an oracle—regarded as gravely dispensing a system of rules for the attainment of perfection, he sinks from the high character of a philosophical observer, to that lowest of intellectual objects—a literary mountebank. The independence in which self-education originates, is peculiarly opposed to the success of such pretensions; it compels men to think for themselves, and consequently to despise that affected and impertinent supervision which would teach them how to think. And

Immortal roots; but most were weak and vile.
And, as a cloudy swarm of summer flies,
With angry hum and slender lance, beset
The sides of some huge animal; so did
They buzz about the illustrious man, and fain
With his immortal honor, down the stream
Of fame would have descended; but, alas!
The hand of time drove them away. They were
Indeed, a simple race of men, who had
One only art, which taught them still to say,
Whate'er was done might have been better done."

Course of Time, b. 8.

if it does not prevent mistakes in the application of their powers, it saves them at least from debasing their minds by meanness of purpose.

CHAPTER XI.

SCIENTIFIC AND ARTISTIC RULES.

No doubt the clamorous and impotent criticism which we have noticed in the previous chapter, derives its importance from the supposed necessity of adhering to certain prescribed forms or rules in our intellectual efforts. Hence the critic is guided not by common sense and the nature of things—not by the inspiration of genius and the wide range of possibilities, but by arbitrary rules of his own creation. These canons are professedly established upon the works of genius; they are pretended oracular responses given forth by the works of genius when interrogated by the mere compiler. How completely worthless all such directions are will appear, if it can be shown that the productions of genius are spontaneous, and that the mind is self-directed on these occasions; we shall then

see that rules have no more to do with these efforts than they have with the vegetation of a plant or the glittering of a diamond. Several considerations tend to establish this view of the subject.

1. Many arts, and even sciences, are acquired at so early a period as effectually to preclude assistance of this kind. Children often learn to sing, not only without formal instruction, but before they are old enough to understand the nature of any rule whatever. Others have performed feats in the various branches of mathematics while ignorant of all rules and destitute of all assistance but the intuitive grasp of their own minds. In poetry we have abundant examples of a similar precocity. Pope says of himself,

“When yet a child, ere yet a fool to fame,
I lisp’d in numbers, for the numbers came;”

and he used to say that he could not remember the time when he began to make verses.

2. In this respect, however, the first, and the last efforts of genius are alike. They are

equally independent of the advantages which arise from the labor of previous scholars. The classifications and systematic arrangements made by their predecessors may be of occasional convenience, but are never indispensably necessary. Linnæus, without those classifications in Botany and Natural History which have been so useful to all succeeding inquirers, was able to conduct his researches quite as successfully as more recent philosophers. No rules have ever been given, or ever can be given, for producing the higher works of art. The ability which produces these works, if not, as some suppose, directly the gift of God, is at least the result of a cause over which the critic has no control. The resources of genius are within, not without. Its inherent power sets outward obstacles at defiance, and makes outward helps of trifling importance. The study of rules never made an artist or a scholar; nor did the violation of rules ever render a work of genius essentially defective. We need no other proof of this, than the fact that many of the best productions originated before such rules

had any existence. Writers succeed no better now than they did when these rules were wanting; and those who disregard them do it with perfect impunity, if not with commendation. Homer is not the less popular because he was ignorant of them, nor is Shakspeare because he neglects them. The latter is especially recreant; he pays no regard to the unities, often confounds characters, and blends tragic with comic—faults which the most ordinary critic could have assured him would be fatal to his reputation; but which, in fact, have never had the effect to make him other than the most popular of English writers.

3. The same conclusion is reached by observing the order in which the rules of art and science take their rise. They derive their existence from works of art, and hence never precede such works in the order of time. Until some writer has given an example of elegant composition, there are no rules for fine writing; until some philosopher has discovered a science, there can be no rules for teaching that science; and until an

art has been invented, all the rules of that art must be unknown, for with the knowledge of the art comes also the knowledge of its rules. Here, then, we see that both art and science may exist at any time, and must originally have existed, without method. Those systematic forms by which their acquisition has been supposed to be greatly facilitated, are often embarrassments rather than helps. Our earliest knowledge is acquired without formal instruction, and there is little doubt but the highest possible attainments of which we are capable are to be achieved in the same manner.

4. It should be observed, also, that genius is always in advance of the age; it acts the part of a pioneer, urging its way forward to truths which the aggregate of society cannot know till long afterwards. This priority of effort utterly excludes the facilities in question. Others, who are to come after the first adventurer, may have guides, but he can have none. Alone, and perhaps contemned by those about him for his apparent recklessness, he passes on to realize the correctness

of his own opinions, and to gain the reward of an unwavering, though solitary confidence. Columbus would never have discovered a new continent if he had waited till the popular geography gave assurance of its existence, or until the improvement of navigation had demonstrated the practicability of such a voyage. Jenner would never have announced his theory of vaccination to the world if he had waited till it was virtually comprehended in the science of medicine, or even till his best friends had sanctioned its publicity.* A genius thus in advance of his contemporaries, must of necessity be like

“Kneller, by Heav’n, and not a master taught,
Whose art was nature and whose pictures thought.”

Works of enduring fame are executed beyond the province of human instruction ; they speak of communings with a higher wisdom,

* “It is not a little remarkable, that Mr. Hunter, like Jenner’s friends at Alveston, thought so doubtingly of his views on vaccination, that he cautioned him against publishing them, lest they should interfere with the fame he had acquired by his ‘Essay on the Cuckoo.’” *Distinguished Men of Modern Times*, vol. 2, p. 277.

and their authors seem to feel as if the injunction were addressed to them: "See that thou make all things according to the pattern showed thee in the mount."

CHAPTER XIV.

SCHOLASTIC INSTITUTIONS.

WE have seen how little dependent the human mind is on those systematic forms which are designed to promote the acquisition of the arts and sciences ; even the masterpieces of its achievement are the result of an inherent ability which needs no prompting and will admit of no control. This fact affords at least presumptive evidence that there is nothing indispensable in the advantages of association—that the aids of supervision are as unnecessary as the dictates of authority. Of this more direct proofs are not wanting.

1. The intellect is not a planet reflecting only borrowed rays ; it is a sun shining by its own light. Its powers are original, not derived ; natural, not acquired. This accounts for those splendid works which had their origin almost in the dawn of human

existence—for the pyramids of Egypt, the poems of Homer, and the Institutes of Menu. These are but instances of what the mind can accomplish whenever it pleases, without waiting for the benignant influence of schools to give it ability. Such works are an unfathomable mystery to those who regard scholastic facilities as essential to greatness. On this hypothesis all improvement must be slow, because the intellect having no resources within itself and being incapable of directing its own energies, cannot become distinguished till assisted by the kindly office of instruction. But this notion is effectually refuted by the fact that the very earliest ages of the world abound with the highest productions of human genius.

2. That intellectual capacity which elevates mankind above the need of precarious assistance, seems to consist in the power of thinking. The object of education is, not to learn the mind to think, but to make it think, and especially to direct its thoughts. Great thoughts are all that is necessary to improvement—they are improvement. What are the

greatest inventions but conceptions of the mind which have been verified by experiment? All that can be called great or good in the intellectual world, is but a mere record of thought. He that would excel, must, therefore, rely upon the workings of his own mind. Now it is well known that this process of the mind is in no way dependent on schools, whether high or low. These institutions do not discourage thinking, but they restrict it to pre-conceived opinions, thus exercising the memory rather than those faculties which are more immediately conducive to intellectual eminence. But even allowing that they encourage original thought, still this is a department of mental activity in which much assistance is neither practicable nor necessary.

3. Another consideration of no small weight is, that the arts and sciences are the same everywhere. Language is the same in seclusion that it is in public ; the same in school and out of school. Latin is Latin, and Greek is Greek in spite of times, places, or numbers. There is, therefore, no necessity for resorting to literary emporiums as the standard of

lingual excellence, since language maintains an unalterable identity, and is equally perfect however it may be acquired. Pronunciation will be unknown to the solitary student, but it is no less unknown to the schools. That those who have the aids of schools may advance faster we shall not dispute, for this is not a question of facility, but only of possibility. Science will unfold its wonders with equal astonishment to the private learner; there are no arcana into which he may not penetrate, no rules the neglect of which will invalidate his acquisitions. The rapturous exclamation of Archimedes, and the overpowering emotions of Newton,* exhibit alike the joy of the lone seeker of truth and the imperishable nature of his discoveries. Science has not only its identity wherever found, but such an ubiquity as makes it to be

* The demonstration of a particular problem having occurred to Archimedes while he was bathing, he was so overjoyed that he leaped from the bath and ran through the streets of Syracuse, crying, "I have found it! I have found it!" It is said that Sir Isaac Newton was so deeply affected when he perceived that his calculations were about to establish the doctrine of Gravitation, that another hand had to finish the process.

found everywhere. It speaks out in the revelations of the telescope and of the microscope, in the animal and in the vegetable kingdoms, in the crust of the earth and in the firmament of heaven. All nature is great and redolent of truth to the philosophic mind. Such a mind can never be without lessons or instructors, for, like Shakspeare's Duke, it

"Finds tongues in trees, books in the running brooks,
Sermons in stones, and good in everything."

4. "Nobody," says Locke, "ever went far in knowledge or became eminent in any of the sciences, by the discipline and constraint of a master."* That there is a great want of stronger motives in these institutions there can be no doubt in the minds of any who observe how little the majority of students profit by the advantages which they enjoy. That some make great proficiency varies not the case, for such would make proficiency under any circumstances. It is not the fear of correction, nor the hope of reward within the institution, that stimulates them to industry;

* Locke on Education, sec. 94.

nor yet is it a consciousness that such advantages are of short continuance, or that their studies cannot be prosecuted elsewhere with success. These lesser motives undoubtedly have some influence, but the grand cause is the love of knowledge and the desire of improvement. Where this is wanting, though there may be diligence enough to secure from censure and success enough to save from contempt, yet the higher elements of scholastic proficiency are absent, and the individual must sink for want of influences which the schools cannot supply. A student of this class may be something in school, in another place he would be nothing. If, then, the motives which alone are decisive of high attainments exist as fully with the private scholar as with any other,—if the mind gathers no higher—no unwonted inspiration in the halls of science, and if the abilities to be displayed in such institutions must be brought there, we may safely conclude that the human faculties have no radical connection with such advantages, and cannot be paralyzed by the want of them.

5. These institutions are circumscribed. The work of education begins with the first moments of conscious existence, and some of our most valuable acquisitions are made, not only before the period at which scholastic instruction usually begins, but even before the period to which memory is afterwards to extend. At this time we learn to walk and to talk, to know our friends and to feel our wants. To these branches of knowledge, which are necessarily acquired before the schools lend their assistance, must be added both collateral and subsequent acquirements: those which we gain by other means while the schools are in progress, as the knowledge of business and of social life; and those which we gain after they have closed, as a knowledge of new sciences and a more profound acquaintance with such as had been previously studied. From the fact that these institutions, however useful, do not propose to teach but a small part of what all must learn, we conclude that they are not essential to learning—that the mind is as competent to learn without their assistance what they pro-

pose to teach, as it certainly is to learn without such assistance what they do not propose to teach. That some can teach does not prove that others must be taught.

6. It has been well remarked by Mrs. Far-
rar, that "where school education ends, there
self-education must begin."* This unavoidable
necessity of ultimately practising on a
different principle, shows clearly enough that
there is something excellent in that only other
way which is open to us. The method that
must answer for all the great enterprises of
maturer years, may, if adopted from neces-
sity, prove very efficient in the less difficult
undertakings of juvenile life. But as self-
education is the destiny of all who continue
to improve—of some earlier, and of others
later—we cannot regard the common scho-
lastic advantages as by any means complete.
They are only introductory to the constitu-
tional plan; they terminate in the method
of nature—in self-direction.

7. Some degree of care is necessary that
these advantages, which are never absolutely

* See her excellent work on Female Education.

requisite and must in all cases finally be laid aside, may not fail of accomplishing the good of which they are capable. Such institutions can be useful only while they recognize their own inferiority; they are the servants of mind and should never be allowed to usurp authority over it. Too often have they continued to teach exploded sciences; too often have they persecuted those who had courage enough to think for themselves. These, and similar evils, are, in some measure, inseparable from the didactic system, and in order to retain it we shall occasionally be obliged to let dogmatism pass for science; but when this becomes a prevailing habit, when the teacher knows everything and the scholar nothing, and when the thing that has been is the only thing that can be, then the system and its products are alike contemptible. To such a state of things the words of Cowper are appropriate.

“The schools became a scene
Of solemn farce, where ignorance in stilts,
His cap well lined with logic not his own,
With parrot tongue performed the scholar's part,
Proceeding soon a graduated dunce.”

Perhaps the habit of repeating from year to year, and from age to age, exactly the same lessons, would be less stultifying if the proper, initial character of such studies were always kept prominently in view. This, however, is not the case, and the fact that one is a graduate, announces, not so much that he has begun his studies, as, that he has reached the acme of possible attainments. He has gained the farthest goal—his education is finished—he is a graduate. However useful college acquirements may be under other circumstances, where such an impression prevails they can only be regarded as a source of mischievous pedantry.

8. The schools are mostly confined to those branches of knowledge which are only of relative importance. Of this class are language and mathematics. This is generally considered as one of the happiest arrangements, because these are the instruments by which the mine of knowledge is to be worked. But knowledge and the means of acquiring knowledge are things very different; the latter derive all their consequence from

the former, and should be esteemed of no importance, except when applied to their legitimate purpose. An education consisting chiefly of these relative attainments, must always be of very little advantage to its possessor until he has had time to make the necessary application of his newly acquired powers. Greek applied would give us the history of Greece and whatever else of history or of science the language might develop ; but Greek unapplied gives us nothing save a useless collection of signs. Now, although we may not undervalue such acquisitions, yet they indicate sufficiently how imperfect that education must be which is confined to things of no independent value.

9. It should not be forgotten that literature reached its zenith long before colleges or universities had any existence. At least that it did, is the opinion of those who so much admire the ancient classics. We need not now inquire into the causes which originated and polished the literature of Greece and Rome ; the fact itself is indisputable, and as to the

cause or causes it is enough to note the absence of that which is mainly relied on, in modern times, for the accomplishment of such an object. Nothing could more fully establish the incidental relation of these institutions to the progress of knowledge and to the general subject of mental improvement.

10. The schools do, indeed, facilitate mental improvement. To deny this would be to insult the good sense of the age. It has not been my object to depreciate their excellence or to discourage the attendance of those who are able to avail themselves of such advantages. I have aimed to estimate, in view of the constitution of the mind and of the character of these institutions, the value which ought to be placed on them for educational purposes. This, of course, results in abridging certain extravagant claims which, as they can never be maintained, should never be asserted. No literary aristocracy, no intellectual caste can be established on so narrow a foundation as the schools supply; all real greatness is beyond the sphere of their ope-

rations, and dependent upon causes which they are equally unable to originate or to control. The aid which they afford is undeniable ; but it is as manifestly of a very secondary character, and can be dispensed with, when necessity requires, without detriment to intellectual culture. We see them following in the train, not leading the march of improvement—humbly waiting to receive contributions of science from the hands of self-directed genius, and only capable of giving them an imperfect diffusion, without the hope of adding to their value. To make such institutions essentially necessary to education, is to reverse all our ideas of human capability. Those who pride themselves upon distinctions of this kind, and who affect to look down with pity or with contempt upon the solitary student as one cut off from all the means of improvement, and doomed to perpetual illiteracy—one that may never be classed with educated men, nor rise to respectable scholarship—are only to be pitied for their ostentatious ignorance ; for however

much their acquisitions may rise above the common standard, they fall much farther below those exalted attainments which are possible to individual effort.

CHAPTER XV.

INVENTIONS AND DISCOVERIES.

THE various incidental observations which, in the course of this work, have been made on inventions and discoveries, have by no means exhausted the subject. And as it is a department of inquiry that from the nature of the case, falls wholly within the province of self-directed exertion, we shall resume the consideration of it in a few particulars which seem to require further notice. Their relative importance, the means by which they are to be effected, and the spirit in which they should be prosecuted, are the points requiring investigation.

I. Improvements in the arts and sciences are but improvements in society—so intimately blended is the state of knowledge with the condition of the world. Knowledge be-

longs to mankind, and whatever increases it, increases their common inheritance, and multiplies both their happiness and their strength. Hence, those who have labored successfully to make improvements, are always considered as benefactors of their race. And, whether it be just or not, reputation seems to be confined to this species of acquisition. The greatest names in science owe their celebrity almost entirely to their inventions or discoveries. We should not have heard of Newton, or of Leibnitz, or of Herschel, but for the discoveries which have immortalized their memories. To learn what others have learned adds nothing to the general stock of knowledge, however much it may benefit the learner himself; and the public have little cause of gratitude because they have received little advantage. Had Newton merely gone over the sciences as they were taught in the universities in his day, he would have performed what thousands have done, and been forgotten as thousands are; but by venturing forward to unknown truths he enlarged the boundaries of knowledge, and made himself a name by

giving new sciences to the world. We would not be understood to say that the application and the diffusion of knowledge are not important; their importance, however, has in it nothing uncommon—it is only what is required of every one and affords no ground for distinction. The use of natural knowledge will save mankind from sinking to that degradation which always attends the total neglect of the intellectual faculties, and the use of the sciences as they now are, will preserve to the world the very great advantages of which it is already possessed; there are, however, other, and greater advantages in store—the future is full of possibilities that can only be reached by passing the present confines of knowledge. The prospects of society are worth more than its possessions; yet, is there no advancing so as to realize these prospects except by the adventurous path of discovery. Bacon avowed it as the object of his philosophy to bring out these latent truths and by this means augment the number of the arts and sciences. “The end of our science,” says he, “is not to discover arguments, but arts,

not what is agreeable to certain principles, but the principles themselves, not probable reasons, but designations and indications of effects."*

The numerous improvements which have taken place since the true object of philosophic inquiry was thus pointed out by Bacon, not only confirm the truth of his speculations, but give cheering hope to all who are engaged in prosecuting schemes of invention. Notwithstanding the evident importance of the object which the inventor or the discoverer has in view, his labors seem never to be appreciated except when they happen to be successful. This shows that such efforts are not recognized by the public as legitimate, and that they are only approved in those instances where the greatness of the success renders the contrary impossible. For this evil there is perhaps no remedy but the increase of intelligence, by which the connection between scientific invention and social welfare shall be better understood.

* Distribution of the Instauration.

II. The means of these achievements happily are not of doubtful character.

Knowledge is the way to knowledge. There is in all science a tendency to expansion, and this tendency is the pledge of new discoveries. But the mind is endowed with an original power of knowing, and can at all times gain knowledge without the intervention of assistance. So that where there is previously no science, the exercise of this original power of knowing is always attended with its proportionate increase of knowledge. These first perceptions commonly include all that can ever afterwards be known, yet it is only in the shape of rudiments, as the acorn includes the oak, and the subsequent necessary expansion must be effected, like the growth of the oak, by the enlargement of the germ. Copernicus conjectured that Venus would appear with different phases like the moon, but it was reserved for Galileo to demonstrate the fact by means of the telescope. Thus a better knowledge of the laws of optics enabled one philosopher to prove what, for want of such knowledge, another philosopher could

only conjecture. One truth becomes a stepping-stone to another, and so onward—how far is yet unknown.

The Logic of Bacon is justly regarded as one of the most powerful instrumentalities in this work. Still the efficacy of the inductive system is derived altogether from its spirit, and not from its details. The idols of the tribe, of the den, of the market, and of the theatre; the method of exclusions, and the twenty-seven prerogative instances are of no value; Neither is the method of induction itself, of much consequence, except as it ensures that careful regard to things without which all reasoning is fallacious. A syllogistic argument is always an assumption, because it takes for granted the very thing to be proved; this exceedingly disgusted Bacon, and led him to the widest extreme from such an absurd mode of reasoning. The syllogism manifests neither care nor proof, but induction largely comprehends both. It is here that we perceive the true character of his system, and it is by this feature alone that the system has achieved such wonders in modern science.

Nothing but the principle of this philosophy is applicable to science; the followers of Bacon have never been inclined to avail themselves of his formulas, nor is it probable that they could have done so successfully had they been thus disposed. Bacon's own success is evidence enough that his rules are only of secondary consequence, for without them—but not without the care which is the foundation of all his rules—he made one of the greatest discoveries of modern times—the true method of philosophizing. Since this discovery, dogmatism has rarely passed for science; and since dogmatism has failed to pass for science, the real inquirer has as rarely failed in his researches.

Before this reform in logic, words had been the grand instrument of invention, and facts were never allowed to have weight against propositions; but the inductive system swept words totally away, and left nothing but facts to the use of the intellectual powers.

III. Many pretend to be seeking truth, or aiming at improvements, while it is evident to all discerning minds that they either have

no just idea of what the search requires, or are purposely trifling with the pursuit. If of the first class, they are ever learning and never able to come to the knowledge of the truth, and this because they seek it not in the right manner; if of the second class, they are daring speculatists or idle system builders who wish to burlesque the scanty knowledge of man, and reproach a prudence but too well justified by the present condition of the human faculties. To guard against perversion and dissipation of this kind, we shall notice some of the characteristics of the true inquirer.

1. *Utility*.—As he who works may be distinguished from him who plays by the greater degree of usefulness which marks his efforts, so he who is really aiming at improvement and means to increase the sum of human knowledge, may be known by the advantages which he proposes to confer in case he shall be successful. What worthy object has any mere theorist ever had in view? Such men wish to amuse themselves or the world by strange combinations, and by exhibiting a sort of comic in the department of science.

Odd, unlooked-for, and hasty solutions of things mysterious, are the delight of such geniuses. If they study Astronomy, it is not to enlarge commerce and exalt our ideas of the Supreme Being, but simply to tell how the world was made; they have a decided *penchant* for the useless, and would drag us through the worlds of ether in search of truths which, if ever gained, would be lighter in value than the ether through which we pass to get at them. Not so with the sober inquirer after knowledge. He seeks for nothing which cannot be useful; he has no time for things merely speculative.

2. *Modesty*.—The inquiries of one in search of truth are always unassuming, and free from that bold—that forward, unblushing front which characterizes the mere theorist and the dealer in dogmatism. He who means to make his word or his ingenuity pass for science, will tell you with the greatest deliberation that things are thus, merely because he thinks them thus, and not because he has any indubitable evidence for what he alleges. In this it would be well for all to imitate Sir

Isaac Newton, who gave his views to the world under two heads, *facts* and *queries*. He could not,—though of all men he had the best right to,—ask mankind to take his mere conjectures for indisputable truths. Yet, how often do we see men offering their own fancies to the world as reliable facts—verities that may not even be questioned. What is this but impudence? And what but folly can allow such impudence to pass unproved?

3. *Docility*.—Lord Bacon has justly said that there is no conquering nature but by submission.* He illustrates this in another place as follows: “There is no other entrance open to the kingdom of nature than to the kingdom of heaven, into which no one may enter except in the form of a little child.”† Men who seek truth, but not with a teachable spirit, are not so much learners as teachers; they profess to seek truth, while in fact they are only communicating it. To be ready and willing to learn—nay, to be more ready to learn than to teach, is one of the most prominent characteristics of original investigation. No mind

* Nov. Org. Aph. 3.

† Interp. of Nature.

wanting in docility can patiently and delightfully glean from every source whatever is available of knowledge, saying constantly with an eminent man, "what I know not, God and man teach me." This spirit is evinced in the inductive philosophy, by that marked attention which is paid to minute circumstances. In this philosophy the falling of an apple affords a clue to unravel the system of the universe. But such a circumstance would never be thought to carry with it anything instructive—no philosopher would search the nature of such a trifle for the theory of the universe, unless he sat at the feet of nature, and believed her every work fraught with the same infinite wisdom. Great things are often only an aggregate of small ones; the ocean is only a collection of drops, and drops are only a collection of particles. Now each of these particles—each of these drops, contains all the peculiarities of the whole mass, and hence, each of them is a fountain of truth which the teachable will not despise.

4. *Caution.*—Industry in collecting, and

caution in determining, are the essentials of induction. But the course of daring speculators is exactly the reverse. They look out upon the heavens and see luminous spots—and because, after getting the highest magnifying powers, these luminous spots still appear to be luminous spots, they gravely conclude that these collections of shining matter are young worlds just starting into existence. They tell us that this globe was once equally light and rare, and that it has become dense by degrees. We are informed how all this is done—it cools, it rolls, it consolidates, until out of thin, transparent matter an adamantine world is composed. Thanks to these gentlemen for the *modus operandi* by which this mundane system was ushered into being, though we still incline to believe on good authority that “in six days God made the world.” But the astronomer is not alone in his fault. The geologist must have his share, nay the Mesmerist belongs to this fraternity of philosophers. The former sees a stone or a shell—immediately he assures us millions of years are necessary to

such productions; the latter finds he can strangely affect the nervous system of some individual, and hence concludes all mysteries are resolvable into magnetism. Miracles are magnetism—Christianity is magnetism. Such haste sets all care at defiance. And yet most of these errors, inexcusable as they are, can be traced to distinguished names in the learned world.

5. *Self-support*.—This enterprise is characterized by a self-sustaining power. The object, though distant, ennobles the mind. Truth lends its greatness to the seeker: truth is dignified, and dignifies those who seek it. Hope mingles largely in the support of those who are toiling for the advancement of science. The greatness of their object inspires patience, and they are willing to labor long and hard for value so high. Like men conscious of approaching wealth, they dread not to exhibit indications of poverty; they care not for foreign opinions, since certain prospects inwardly sustain them against all opposition from without.

These are the most important traits of that

progress of which science is yet capable. That the burden of this progress is thrown upon self-education, none can deny, for such a work never was attempted by the schools. But in self-education the chances of eminence are not confined to an extension of science, as its limited means often afford an opportunity for re-invention and re-discovery. Hence, if science were at a stand, and all hopes of improvement cut off, the solitary student might yet rival Newton, for he might yet make the discoveries that Newton made. To those, however, who follow a text-book or a teacher, such achievements are impossible; and they can only hope to equal the great masters of science when they have advanced to where helps of this kind are no longer available. Nevertheless, the desire of original improvement should not act as a dissuasive from the usual means of education, because the world is not so much to be benefited by re-discovering what is already known, as by augmenting the sum of knowledge. Nor is the labor of passing, in any particular direction, to the extreme of accredited science, such as to dis-

courage a reasonable ambition. It may be that in the very outset, while canvassing the rudiments only, new light will break in upon the mind, and thus not only shorten the process of acquisition by enlarging comprehension, but revolutionize the science by superseding the deductions of previous inquirers.

THE END.

LIBRARY OF CONGRESS



0 029 445 256 4